



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Georgia Division**

March 5, 2014

61 Forsyth Street S.W.  
Atlanta, Georgia 30303  
404-562-3630  
404-562-2703  
GA.fhwa@dot.gov

In Reply Refer To:  
HPE-GA

Mr. Keith Golden, P.E.  
Commissioner  
Georgia Department of Transportation  
One Georgia Center  
600 West Peachtree  
Atlanta, Georgia 30308

Dear Mr. Golden:

We have reviewed the request to use proprietary items on CR 1516/C.W. Grant Parkway Grade Separation @ Norfolk-Southern Railway; including Conley Road and SR 3 Relocation, STP00-0001-00(817), PI 0001817, in Clayton County.

FHWA accepts the Certification provided by Clayton County Department of Transportation that the following items are essential for aesthetic synchronization to match the visual appearance of existing facilities previously installed in Clayton County for the International Terminal Entrance to the Airport and to meet the lighting design requirements for the project:

Light poles and luminaries

- Schreder Model HEX T2-FCL MH ED28 400
- Schreder Model HEX T3-FCL MH ED28 400
- Holophane Model MW175MH00X

Therefore, FHWA finds that it is acceptable to use the above listed items for the purpose of aesthetic synchronization with highway existing facilities. This approval is only applicable to be used on Federal Project Number STP00-0001-00(817), PI 0001817, in Clayton County.

If you have any questions, please contact Melinda Roberson at (404) 562-3652.

Sincerely,

  
for Rodney N. Barry, P.E.  
Division Administrator

Cc: Genetha Rice-Singleton, State Program Delivery Engineer  
Cc: Brent Story, State Design Policy Engineer  
Cc: Merishia Robinson, Project Manager



February 3, 2014

Mr. Rodney Barry – Division Administration  
Federal Highway Administration  
61 Forsyth Street, Suite 17T100  
Atlanta, GA 30277

**Attention: Melinda Roberson**

Subject: Proprietary Items Usage  
PI # 0001817-; Project STP00-0001-00(817)  
CR 1516/C.W. Grant Pkwy Grade Separation @ Norfolk-Southern Railway Including  
Conley Rd and State Route 3 Relocation – GRTA  
Clayton County

Mr. Barry:

Please review the attached request from Clayton County for the use of proprietary products on the above project. The Department considers the use of the proposed proprietary items to be in compliance with 23 CFR 635.411 for Synchronization with existing items.

The proposed project is located in within the Atlanta TMA in unincorporated Clayton County, approximately 0.8 miles from Hartsfield-Jackson International Airport in the vicinity of the International Terminal Entrance. In order to match the visual appearance of existing facilities and meet the lighting design requirements for the project, the use of proprietary products is requested.

Should you have any questions or concerns, please contact Dave Peters at 404-631-1738 or Mereshia Robinson at 404-631-1151.

Sincerely,

A handwritten signature in blue ink, appearing to read "B. Story".

Brent Story, P.E.  
State Design Policy Engineer

BAS:drp

Cc: Genetha Rice-Singleton, State Program Delivery Engineer  
Attn: Merishia Robinson, Project Manager



# Clayton County Transportation & Development

7960 North McDonough Street  
Jonesboro, Georgia 30236  
Telephone: (770) 477-3674  
Fax: (770) 473-3990

**DIVISIONS**  
Administration  
Engineering Services  
Landfill  
Public Works  
Traffic Engineering

**Jeff Metarko, Director**  
**Keith Rohling, Asst. Director**

January 9, 2014

Ms. Merishia Robinson  
Project Manager  
Georgia Department of Transportation  
Office of Program Delivery (25<sup>th</sup> Floor)  
600 West Peachtree Street, NW  
Atlanta, GA 30308



Subject: Use of Proprietary Items for  
GDOT PI: 0001817, Project number STP00-0001-00(817)  
CR 1516/C.W. Grant Pkwy Grade Separation @ Norfolk Southern Railroad;  
Including Conley Road and State Route 3 Relocation - GRTA, Clayton County

Dear Ms. Robinson,

As per Federal Highway Administration regulation in 23 CFR 635.411, provides the regulatory authority for FHWA's participation in the cost of a patented or proprietary product. For the CR 1516/C.W. Grant Pkwy Grade Separation @ Norfolk Southern Railroad; Including Conley Road & State Route 3 Relocation - GRTA Project, PI# 0001817, STP00-0001-00(817), I request to use the item(s) documented in this letter based on Federal Guidance in the category of Synchronization.

### **635.411 Material or Product Selection**

Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

1. Such patented or proprietary item is purchased or obtained through competitive bidding with equally suitable unpatented items; or
2. The State transportation department certifies either that such patented or proprietary item is essential for synchronization with existing highway facilities, or that no equally suitable alternate exists; or
3. Such patented or proprietary item is used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes.

For the CR 1516/C.W. Grant Pkwy Grade Separation @ Norfolk Southern Railroad; Including Conley Road & State Route 3 Relocation - GRTA Project, PI# 0001817, STP00-0001-00(817), the following proprietary items are proposed for use:

Manufacturer: *Schreder*  
Quantity in Project: **130**  
Total Estimated Cost for (item): **\$650,000**

Model: **HEX T2-FCL MH ED28 400**  
Finish: *To match existing structures West of Loop Rd*  
Color: *To match existing structures West of Loop Rd*

Manufacturer: *Schreder*  
Quantity in Project: **22**  
Total Estimated Cost for (item): **\$110,000**

Model: **HEX T3-FCL MH ED28 400**  
Finish: *To match existing structures West of Loop Rd*  
Color: *To match existing structures West of Loop Rd*

Manufacturer: *Holophane*  
Quantity in Project: **4**  
Total Estimated Cost for (item): **\$4,000**

Model: <sup>W</sup>~~MN~~<sup>175</sup>**MH00X**  
Finish: *To match existing structures West of Loop Rd*  
Color: *To match existing structures West of Loop Rd*

Total Estimated Cost for Light Poles and Luminaires: **\$764,000**

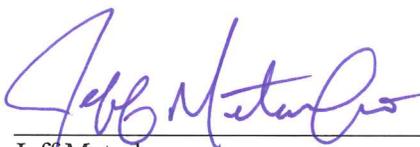
The total estimated costs for materials listed above are based on recent construction bids on similar projects. These costs include materials, labor, tax, and freight.

The estimated total construction cost for the project is **\$31,249,020**. The cost of **\$764,000** for proprietary items represents **2.45%** of the estimated construction costs.

I Jeff Metarko, Director of the Clayton County Department of Transportation & Development (CCDT&D) do hereby certify that in accordance with the requirements of 23 CFR 635.411(a)(2), that this patented or proprietary item is essential for synchronization with existing highway facilities. The use of these products is essential for aesthetic synchronization to match the visual appearance of existing facilities previously installed in Clayton County for the International Terminal Entrance to the Airport and for compatibility with the Clayton County Department of Transportation & Development (CCDT&D) Design Guidelines.

The Clayton County Board of Commissioners respectfully requests that the use of these proprietary products be approved.

Sincerely,



\_\_\_\_\_  
Jeff Metarko  
Director  
Clayton County Department of Transportation & Development  
(CCDT&D)

Attachments:

Clayton County wanted to provide a light fixture which would deliver a similar look and feel that was done at the nearby Loop Rd by the International Terminal Entrance to the Airport. After visiting the site, it was determined that the fixture they wanted to use was a Lithonia MR2:



Unfortunately, after some preliminary photometric calculations, it was obvious that this fixture would not work, as the roadway cross-sections in our project were much larger than along Loop Rd and therefore would require more of a 'forward-throw' fixture. It was mentioned, however that the same light source type (metal halide) could be used and a fixture which could look similar "modern contemporary" look could be provided. From here, several light options were sought out and tested to determine which fixtures would perform the best, given our challenging roadway cross-section and even more challenging intersections. The following is a summary of some of the best performing luminaire fixtures that met the design criteria:

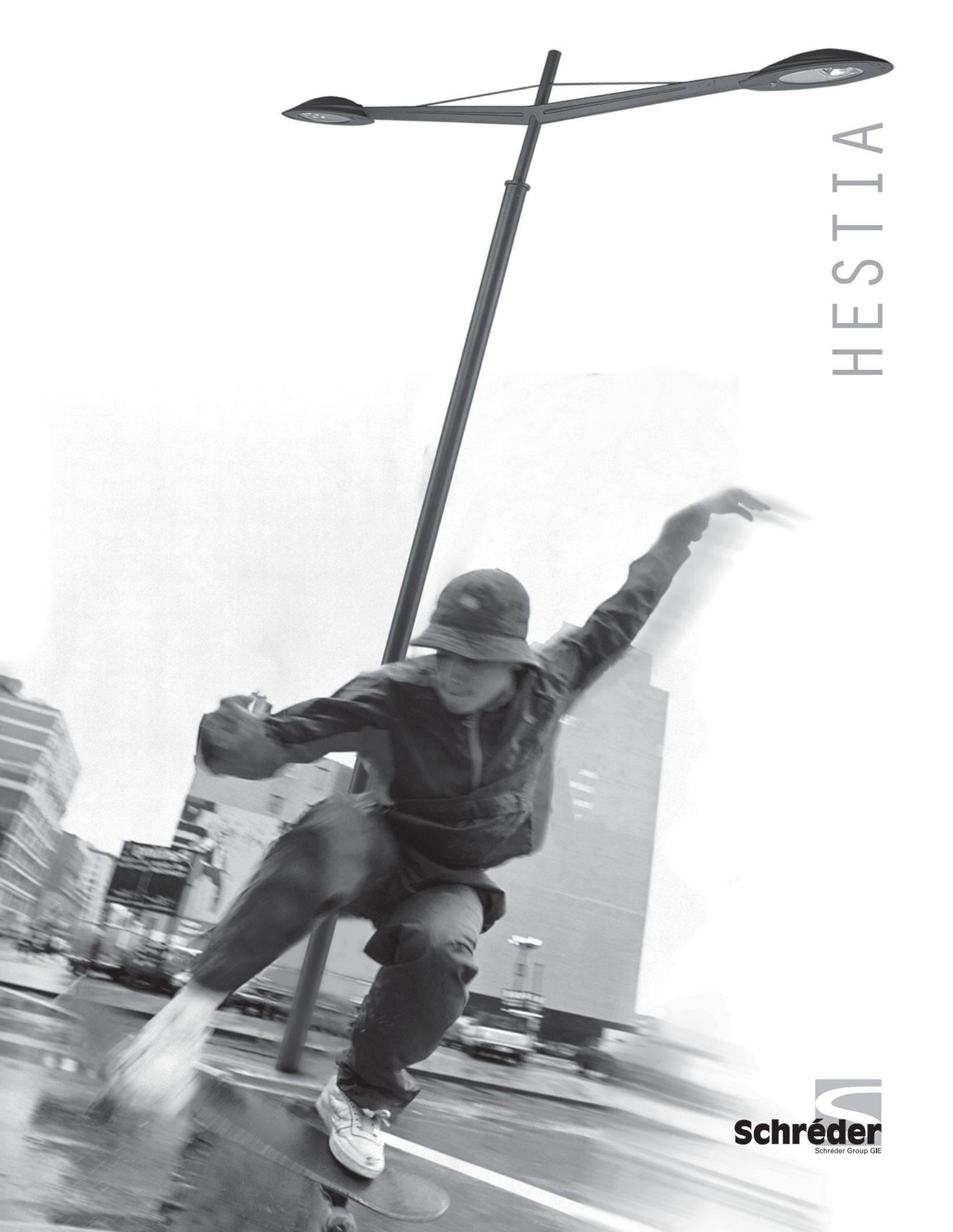
Design Criteria:      15 Average Lux  
                                 3:1 or better Illuminance Uniformity  
                                 0.3 or better Veiling Luminance Ratio  
                                 8 Lane (96 feet) Opposite Pole arrangement

Manufacturer	Model	Lens	Lamp	Lumens	IES Type	Photometric file	Spacing	M H	Lum. OH	Lux	Av/Min	L <sub>y</sub> Ratio
Schreder	Scala Extreme	Unknown	PSMH	39000	S-FC-III	SCA3 T3-FCL MH ED28-250	187	45	0	15.01	2.71	0.29
Schreder	Scala Extreme	Unknown	PSMH	39000	S-FC-II	SCA3 T2-FCL MH ED28-250	191	45	0	15.22	3.00	0.27
Holophane	Pechina	Sag	MH	32400	S-C-II	P400HM00NSX	158	45	10	15.02	1.77	0.18
Holophane	Pechina	Flat	MH	32400	S-FC-III	P400HM00WFX	169	45	3	15.03	2.69	0.14
Holophane	Pechina	Sag	MH	32400	M-S-IV	P400HM00WSX	132	45	12	15.03	1.80	0.13
Schreder	Hestia	Sag	PSMH	39000	S-C-III	HEX T3-DCL MH ED28-250	186	45	6	15.27	2.99	0.17
Schreder	Hestia	Flat	PSMH	39000	S-FC-II	HEX T2-FCL MH ED28-250	190	45	-5	15.28	2.80	0.16
Schreder	Hestia	Sag	PSMH	39000	S-C-II	HEX T2-DCL MH ED28-250	180	45	6	15.24	1.94	0.19
Gardco	Circa	Flat	PSMH	40000	S-FC-II	CR25-2XL-400P	150	45	4	15.07	2.11	0.21
Gardco	Circa	Flat	PSMH	40000	M-FC-III	CR25-3XL-400P	153	45	4	15.00	1.75	0.17
Gardco	Circa	Flat	PSMH	22000	M-FC-II	CR25-2XL-250P	139	35	12	15.00	1.84	0.22
Gardco	Circa	Flat	PSMH	22000	S-FC-III	CR25-3XL-250P	138	35	12	15.04	1.76	0.18

The maximum spacing reached for any of the fixtures tested was 190', which is really good given the layout, but was only achieved by two of the fixtures. Other options using a less spacing would result in a greater amount of poles used, and therefore additional cost. Additionally, the County then stated they would require the luminaire not hang over active lanes, so that they would not need to be shut down during maintenance. This eliminated all except Schreder's Scala Extreme and Hestia fixtures. Given the two options and the fact the Hestia could be mounted behind the active lanes rather than at the edge of pavement, the County ultimately selected the Hestia. During the design process, it was discovered that this fixture is the right choice for the project, for the varying arm lengths (up to 9' long) are required for some design sections where the poles are needed to be mounted behind retaining walls.

Additionally, several LED alternatives were evaluated as another cost saving venture, however these were all unsuccessful.

In conclusion, between the County's desires and the design conditions, there is really only one luminaire option which will work for this project.

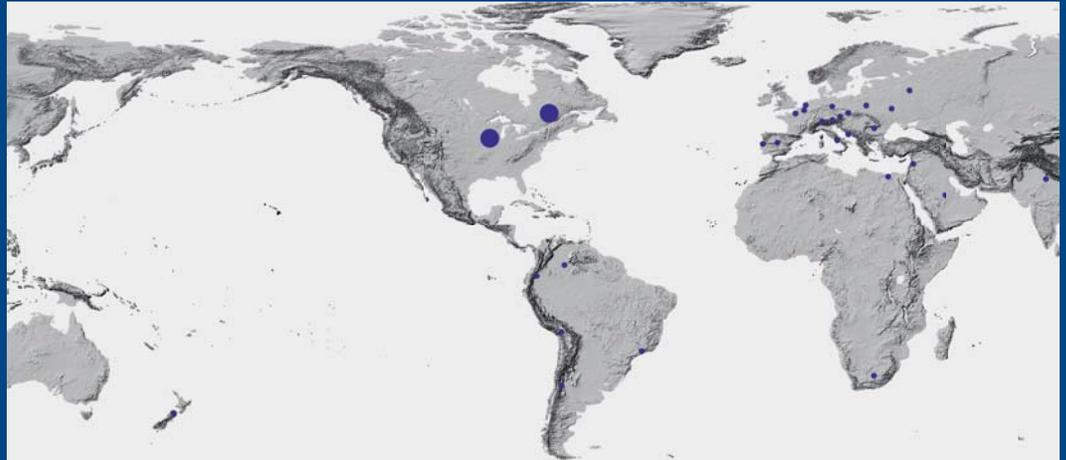


HESTIA

# THE SCHRÉDER GROUP

The Schröder Group GIE is a family-owned group uniting 2,500 people in more than 40 companies, spread over more than 30 countries and four continents.

These professionals pool their resources and skills to offer their clients equally high standards of quality in all markets. Schröder North America has facilities to serve you in Chicago, Illinois and Montreal, Canada.



## SCHRÉDER THE GREEN LIGHT

### RIGHT

It is our Mission to provide you, our customers, with the best lighting solution that is right for your specific project with its particular needs. We put all our efforts, expertise and experience at your service in order to help make your lighting project a success.

### LIGHT

Light is our passion. We are dedicated to making high quality lighting products that illuminate, accentuate and beautify their surroundings. We are continuously in search of innovation to improve our products' technologies and aesthetics.



Schröder designs and manufactures Hestia fixtures that are certified by the International Dark-Sky Association.

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Ordering guide - Midi	18-19
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[www.schreder.com](http://www.schreder.com)

HESTIA

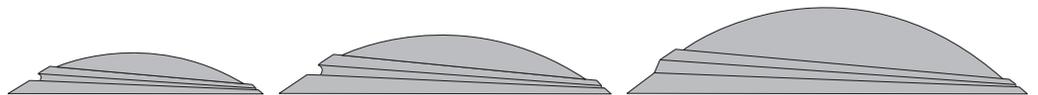


# HESTIA



The HESTIA luminaire is a groundbreaking design for visual lightness and compactness. The HESTIA is available in three sizes for 39 to 400 watt lamps. All three sizes are perfectly scaled to each other for visual continuity throughout a project site. Proportionately scaled arms for each size of HESTIA luminaire add to the wide range of possible applications.

The HESTIA Micro is fitted with the Schröder Micro-reflector that embodies new trends in lamp technology to provide state of the art photometric performance.



Model	Hestia Micro	Hestia Midi	Hestia Extreme
<b>Dimensions</b>			
Height	5.0 in/125mm	6.5 in/165mm	9.5 in/241mm
Length	28.1 in/715mm	36.5 in/927mm	44.0 in/1117mm
Width	9.6 in/245mm	12.8 in/324mm	16.0 in/406mm
EPA	.68 sq.ft / .063m <sup>2</sup>	.81 sq. ft / .075m <sup>2</sup>	1.1 sq. ft. / .102m <sup>2</sup>
Weight	18 lbs/8.2kg	30 lbs/13.6kg	50 lbs/23kg
IP rating - reflector	66	66	66
<b>Lamp type</b>			
Metal Halide	39 to 150 watts	50 to 150 watts	150 to 400 watts
High Pressure Sodium	-	70 to 150 watts	150 to 400 watts



**Schröder**

HESTIA 

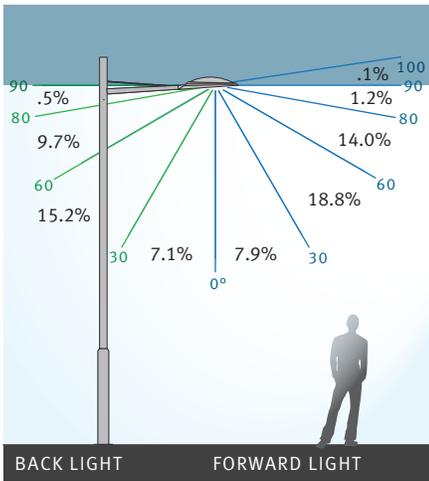
# OPTICAL SYSTEMS

## LUMINAIRE CLASSIFICATION SYSTEM - LCS

The LCS is an IESNA standard method of evaluating the lighting levels produced by a luminaire by classifying the results into three categories; forward light, back light and up light. This can be combined with the IESNA roadway classification to evaluate the optical system best suited to your project. Refer to the IESNA TM-15-07 for more information.

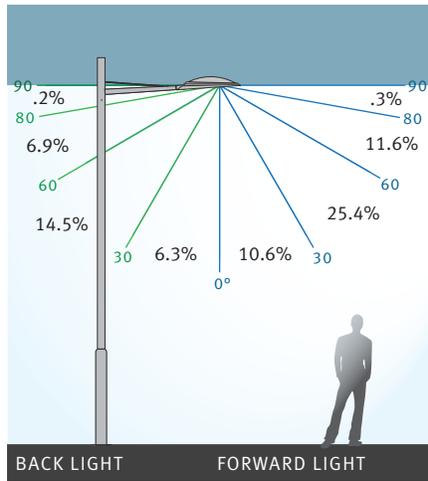
**HESTIA MICRO**  
HES T2 - DCL

- Type 2 reflector with sag glass lens
- LCS values shown below



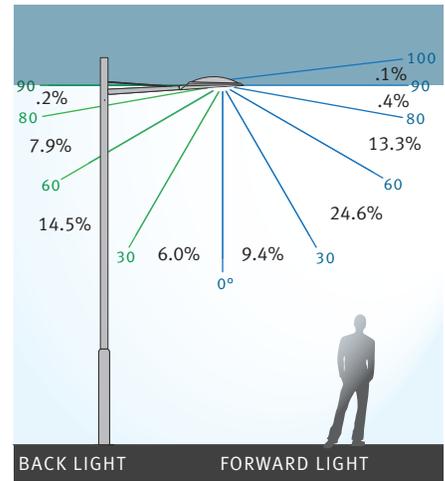
**HESTIA MIDI**  
HEM T2 - FCL

- Type 2 reflector flat glass lens
- LCS values shown below



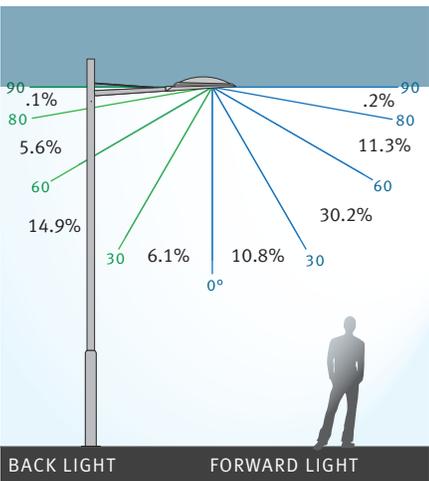
**HESTIA MIDI**  
HEM T2 - DCL

- Type 2 reflector with sag glass lens
- LCS values shown below



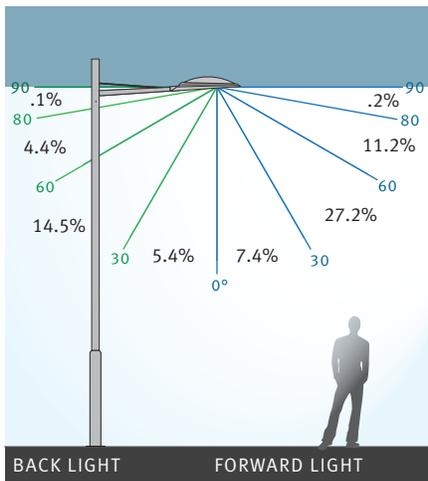
**HESTIA EXTREME**  
HEX T2 - FCL

- Type 2 reflector with flat glass lens
- LCS values shown below



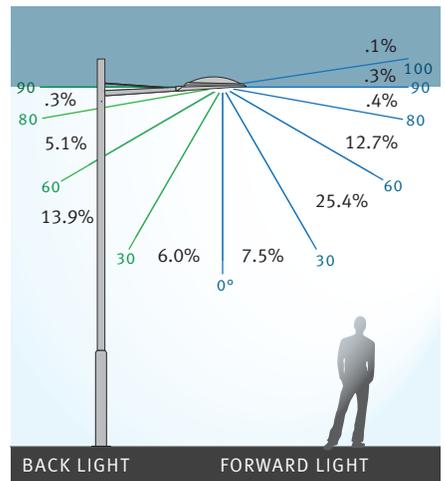
**HESTIA EXTREME**  
HEX T3 - FCL

- Type 3 reflector with flat glass lens
- LCS values shown below



**HESTIA EXTREME**  
HEX T3 - DCL

- Type 3 reflector with sag glass lens
- LCS values shown below



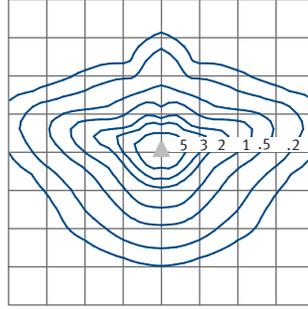
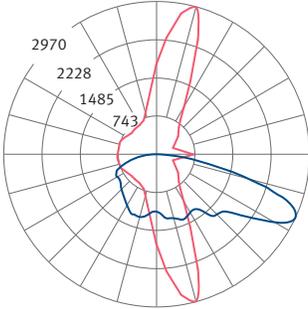
# REFLECTOR TYPES

## HESTIA MICRO

HES T2-DCL MH-T6-70 type 2, sag glass

Max Candela 2970 at:  
Horizontal angle = 75°  
Vertical angle = 65°

Mounting height = 12 feet  
Scale is one square = 12 feet/3.8M  
Lumens = 6,600

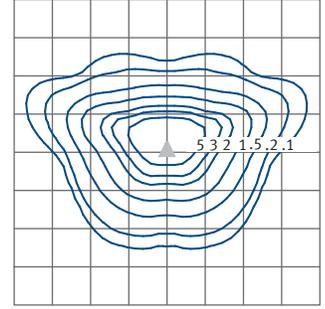
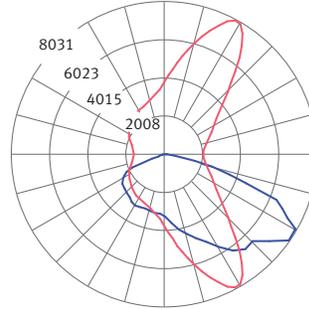


## HESTIA EXTREME

HEX T2-FCL MH-ED28-250 type 2, flat glass

Max Candela 8031 at:  
Horizontal angle = 63°  
Vertical angle = 55°

Mounting height = 20 feet  
Scale is one square = 20 feet/6.1M  
Lumens = 20,000

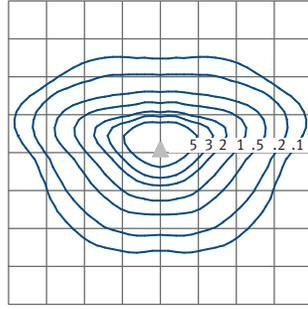
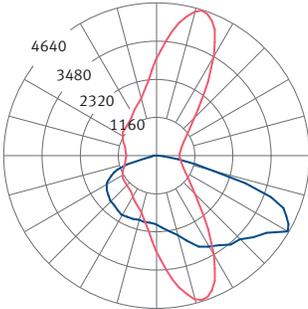


## HESTIA MIDI

HEM T2-FCL MH-ED17-150 type 2, flat glass

Max Candela 4640 at:  
Horizontal angle = 73°  
Vertical angle = 60°

Mounting height = 16 feet  
Scale is one square = 16 feet/4.9M  
Lumens = 12,600

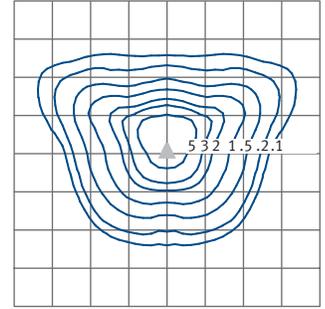
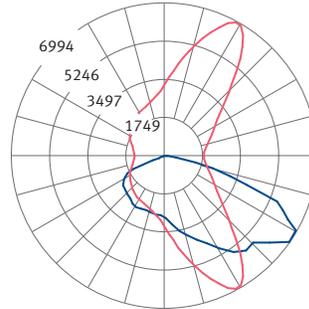


## HESTIA EXTREME

HEX T3-FCL MH-ED28-250 type 3, flat glass

Max Candela 6994 at:  
Horizontal angle = 53°  
Vertical angle = 60°

Mounting height = 20 feet  
Scale is one square = 20 feet/6.1M  
Lumens = 20,000

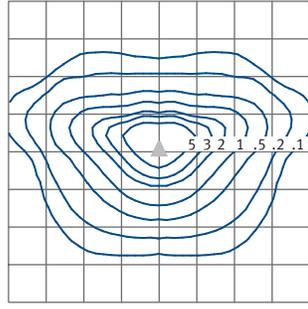
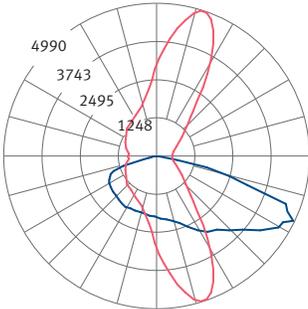


## HESTIA MIDI

HEM T2-DCL MH-ED17-150 type 2, sag glass

Max Candela 4990 at:  
Horizontal angle = 73°  
Vertical angle = 65°

Mounting height = 16 feet  
Scale is one square = 16 feet/4.9M  
Lumens = 12,600

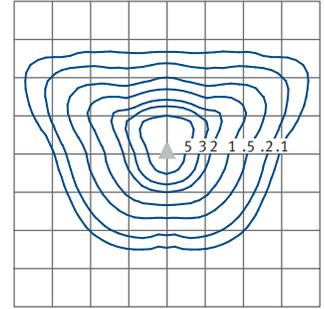
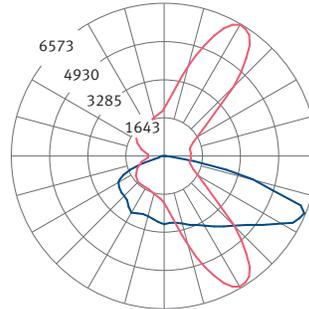


## HESTIA EXTREME

HEX T3-DCL MH-ED28-250 type 3, sag glass

Max Candela 6573 at:  
Horizontal angle = 60°  
Vertical angle = 68°

Mounting height = 20 feet  
Scale is one square = 20 feet/6.1M  
Lumens = 20,000



HESTIA MIDI  
HEM A-107-1-71 (ARM) CUSTOM POLE



HESTIA MIDI  
HEM CUSTOM POLE



**Schröder**

HESTIA 

## SCHREDER MICRO REFLECTOR SYSTEM

The Schreder Micro-Reflector is designed to take advantage of the small physical size of the T-6 metal halide lamp. The T-6 lamp utilizes ceramic metal halide technology for accurate and consistent color rendition. The small size of the Micro-Reflector facilitates the Hestia's unique aerodynamic aesthetics.

- Designed for high efficiency and energy savings.
- Precise beam control to reduce glare.



## TECHNICAL FEATURES

- A quarter - turn screw enables the luminaire to be opened without tools.
- The transition plate supporting the optical compartment tips and gives access to the lamp support plug and the control gear mounted on a removable plate.

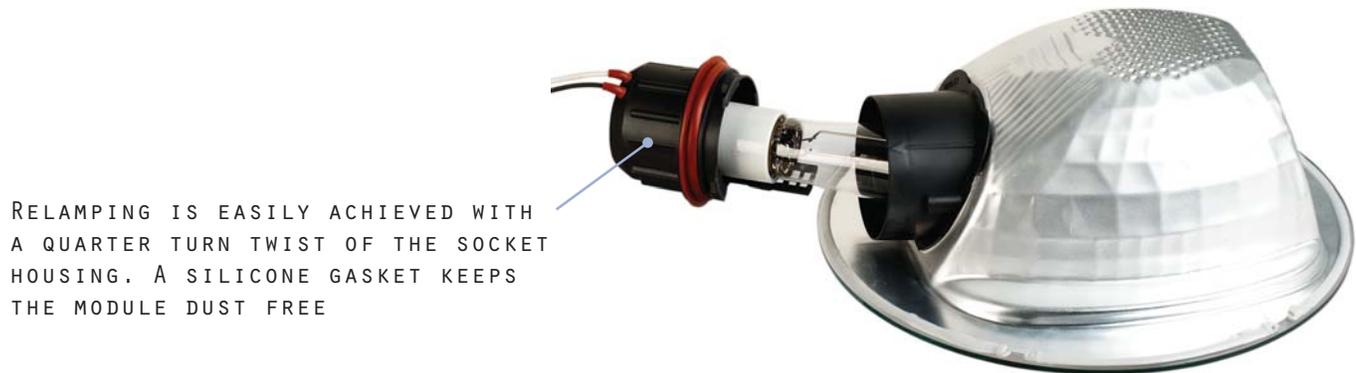


TOOL FREE ACCESS TO  
THE OPTICAL UNIT AND  
THE BALLAST MODULE  
HESTIA EXTREME SHOWN

# THE SEALSAFE® SYSTEM

The Sealsafe® System ensures lifetime protection with a hermetically sealed optical unit that is waterproof and dust proof. Schröder introduced the Sealsafe® system in 1986. Every year, Schröder measures the cleanliness of the optical system of luminaires. With proven results of no infiltration of dirt, dust or water for over 20 years, Schröder is able to offer a 20 year warranty on the integrity of the Sealsafe® optical system.

- No light output depreciation due to dirt inside the optical unit provides energy savings.
- A proven, time tested IP66 performance rating reduces maintenance and associated costs.



INTERNATIONAL IP RATING CHART (IEC 60598-1)			
PROTECTION AGAINST THE PENETRATION OF SOLID BODIES	1ST DIGIT	2ND DIGIT	PROTECTION AGAINST THE INGRESS OF WATER
Protected against solid objects greater than 2" (50 mm).	1	1	Protected against dripping water (vertically falling drops).
Protected against solid objects greater than 0.5" (12 Mm) (ex. fingers).	2	2	Protected against vertically dripping water when the enclosure is tilted up to 15° from its normal position.
Protected against solid objects greater than 0.1" (2.5 mm) (ex. tools, thick wires, etc.).	3	3	Protected against spraying water at an angle up to 60° from the vertical.
Protected against objects greater than 0.04" (1 Mm) (ex. most wires, screws, etc.).	4	4	Protected against water jets projected by a nozzle against enclosure from any direction.
Dust protected - ingress of dust is not entirely prevented, but must not interfere with the normal operation of the equipment.	5	5	Protected against water jets projected by a nozzle against enclosure from any direction.
Dust tight	6	6	Protected against heavy seas or water projected in powerful jets against the enclosure from any direction.
		7	Protected against the effects of immersion in water up to 3.3 feet (1 meter) and accidental immersion
		8	Protected against the effects of immersion in water beyond 3.3 feet (1 meter).

HESTIA MIDI  
HEM A-107-2-84 (ARM) P-201-0306-20 (POLE)



HESTIA MIDI  
HEM A-107-2-84 (ARM) P-201-0306-24 (POLE)





HESTIA MIDI



HESTIA MIDI  
HEM A-107-1-71 (ARM)  
P-201-0306-20 (POLE)



HESTIA MIDI  
HEM A-107-1-71 (ARM)  
P-201-0306-20 (POLE)

HESTIA MIDI

HEM A-107-1-71 (ARM) P-201-0306-20 (POLE)



HESTIA MIDI

HEM A-107-1-71 (ARM) P-201-0306-16 (POLE)



HESTIA MICRO

HES P-201-12



HESTIA MIDI

HEM A-107-1-71 (ARM) P-201-0306-16 (POLE)



HES T2 - DCL **1** MH T6 - 70 **2** 277 **3** EQ 9006 **4**

**LIGHT DISTRIBUTION and LENS TYPE**  
**T2 - DCL**  
 IES type 2 with clear drop lens

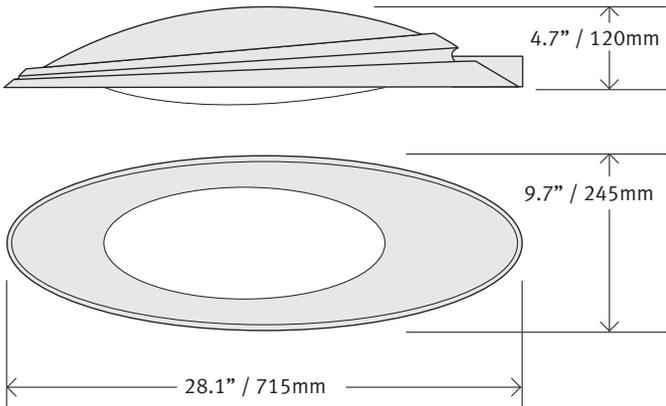
LAMP TYPE	
<b>MH T6</b> Metal Halide - G-12 bi-pin socket	
<b>MH T6 - 39</b> 39 watt lamp metal halide	
<b>MH T6 - 70</b> 70 watt lamp metal halide	
<b>MH T6 - 150</b> 150 watt lamp metal halide	

**VOLTAGE**  
 120 volt  
 208 volt  
 240 volt  
 277 volt  
 \* Electronic ballast

COLOR
<b>EQ 9011</b> Textured Black
<b>EQ 9007</b> Textured Gray
<b>EQ 9016</b> Textured White
<b>EQ 8019</b> Textured Bronze
<b>EQ 9006</b> Smooth Aluminum
<b>RAL _ _ _ _</b> Provide four digit RAL color number.
<b>CSC</b> Custom color Provide a color sample for matching and approval.

**ORDERING EXAMPLE**

HES T2-DCL MH T6-70 277 EQ9006 BLS A-104-1-48 P-201-04  
**1 2 3 4 5 6 7**



**OPTIONS**  
**BLS**  
 Back Light Shield provides a sharp light cutoff behind the pole.

**MOUNTING**  
 Brackets are shown on pages 19 - 21.

**POLE**  
 Refer to the Schröder pole guide.

HEM T3 - FCL **1** CPO TW 140 **2** 277 **3** EQ8019 **4**

LIGHT DISTRIBUTION and LENS TYPE
<b>T1 - FCL</b> IES type 1 with flat glass lens
<b>T2 - FCL</b> IES type 2 with flat glass lens
<b>T3 - FCL</b> IES type 3 with flat glass lens
<b>T1 - DCL</b> IES type 1 with clear drop lens
<b>T2 - DCL</b> IES type 2 with clear drop lens
<b>T3 - DCL</b> IES type 3 with clear drop lens

LAMP TYPE
<b>MH ED17</b> Metal Halide - medium base socket
<b>MH ED17 - 50</b> 50 watt metal halide 
<b>MH ED17 - 70</b> 70 watt metal halide 
<b>MH ED17 - 100</b> 100 watt metal halide 
<b>MH ED17 - 150</b> 150 watt metal halide 
<b>MH T6</b> Metal Halide - G-12 bi-pin socket
<b>MH T6 - 70</b> 70 watt metal halide 
<b>MH T6 - 150</b> 150 watt metal halide 
Philips® CosmoPolis CosmoWhite Lamp and electronic ballast system PGZ 12 lamp base
<b>CPO TW 60</b> 60 watt CosmoWhite lamp 
<b>CPO TW 90</b> 90 watt CosmoWhite lamp 
<b>CPO TW 140</b> 140 watt CosmoWhite lamp 
<b>HPS ED17</b> High pressure sodium lamp Medium base socket
<b>HPS ED17 - 50</b> 50 watt high pressure sodium 
<b>HPS ED17 - 70</b> 70 watt high pressure sodium 
<b>HPS ED17 - 100</b> 100 watt high pressure sodium 
<b>HPS ED17 - 150</b> 150 watt high pressure sodium 

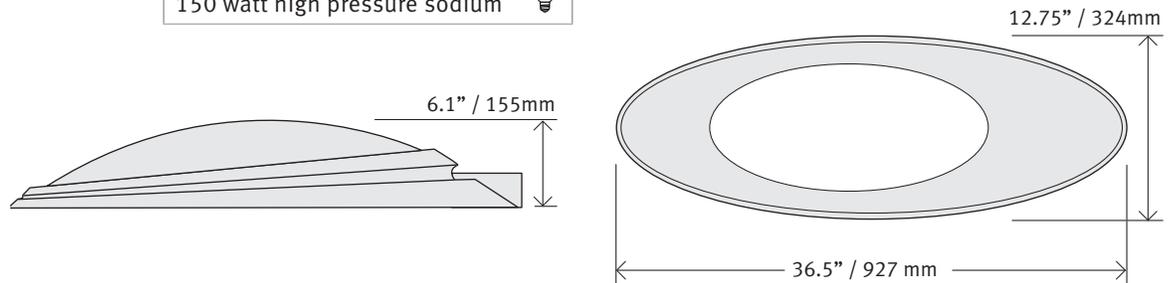
VOLTAGE
120 volt
208 volt
240 volt
277 volt
347 volt

COLOR
<b>EQ 9011</b> Textured Black
<b>EQ 9007</b> Textured Gray
<b>EQ 9016</b> Textured White
<b>EQ 8019</b> Textured Bronze
<b>EQ 9006</b> Smooth Aluminum
<b>RAL _ _ _ _</b> Provide four digit RAL color number.
<b>CSC</b> Custom color Provide a color sample for matching and approval.

OPTIONS
<b>ELB</b> Electronic ballast, multi voltage 120 to 277 volt input.
<b>BLS</b> Back Light Shield provides a sharp light cutoff behind the pole.

MOUNTING
Brackets are shown on pages 19 - 21.

POLE
Refer to the Schröder pole guide.



HEX T3 - FCL **1** MH ED28-250 **2** 277 **3** EQ 8019 **4**

LIGHT DISTRIBUTION and LENS TYPE
<b>T1 - FCL</b> IES type 1 with flat glass lens
<b>T2 - FCL</b> IES type 2 with flat glass lens
<b>T3 - FCL</b> IES type 3 with flat glass lens
<b>T1 - DCL</b> IES type 1 with clear drop lens
<b>T2 - DCL</b> IES type 2 with clear drop lens
<b>T3 - DCL</b> IES type 3 with clear drop lens

LAMP TYPE
<b>MH ED17</b> Metal Halide - medium base socket
<b>MH ED17 - 70</b> 70 watt metal halide 
<b>MH ED17 - 100</b> 100 watt metal halide 
<b>MH ED17 - 150</b> 150 watt metal halide 
<b>MH ED28</b> Metal Halide - mogul base socket
<b>MH ED28 - 250</b> 250 watt metal halide 
<b>MH ED28 - 320</b> 320 watt metal halide 
<b>MH ED28 - 400</b> 400 watt metal halide 
<b>HPS ED23</b> High pressure sodium lamp Mogul base socket
<b>HPS ED23 - 70</b> 70 watt high pressure sodium 
<b>HPS ED23 - 100</b> 100 watt high pressure sodium 
<b>HPS ED23 - 150</b> 150 watt high pressure sodium 
<b>HPS ET18</b> High pressure sodium lamp Mogul base socket
<b>HPS ET18 - 200</b> 200 watt high pressure sodium 
<b>HPS ET18 - 250</b> 250 watt high pressure sodium 
<b>HPS ET18 - 310</b> 310 watt high pressure sodium 
<b>HPS ET18 - 400</b> 400 watt high pressure sodium 

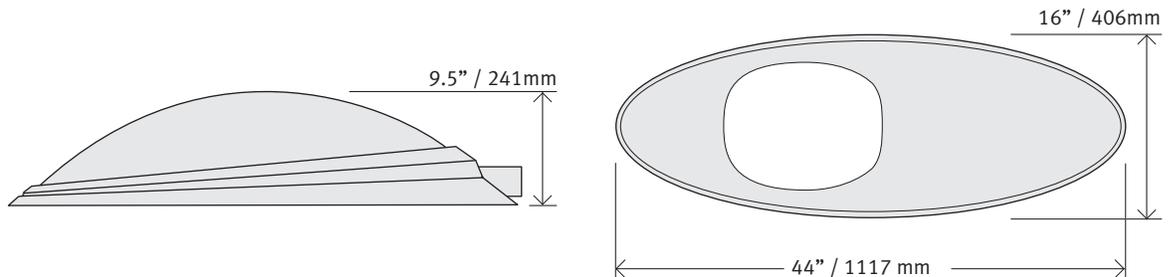
VOLTAGE
120 volt
208 volt
240 volt
277 volt
347 volt

COLOR
<b>EQ 9011</b> Textured Black
<b>EQ 9007</b> Textured Gray
<b>EQ 9016</b> Textured White
<b>EQ 8019</b> Textured Bronze
<b>EQ 9006</b> Smooth Aluminum
<b>RAL</b> _ _ _ _ Provide four digit RAL color number.
<b>CSC</b> Custom color Provide a color sample for matching and approval.

OPTIONS
<b>ELB</b> Electronic ballast, multi voltage 120 to 277 volt input.
<b>BLS</b> Back Light Shield provides a sharp light cutoff behind the pole.
<b>CRC</b> Special corrosion resistant coating

MOUNTING
Brackets are shown on pages 19 - 21.

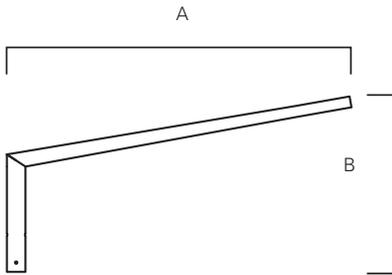
POLE
Refer to the Schröder pole guide.



# BRACKETS

## MOUNTING

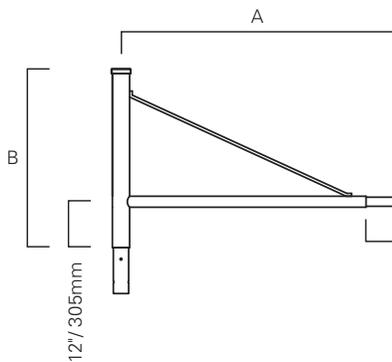
A-104



MODEL		A	B	EPA
A-104-1-48	Single bracket	48" 1219mm	32" 813mm	1.92
A-104-2-48	Double bracket with arms at 180°	96" 2438mm	32" 813mm	3.10
A-104-1-72	Single bracket	72" 1829mm	37" 940mm	2.36
A-104-2-72	Double bracket with arms at 180°	144" 3658mm	37" 940mm	3.98
A-104-1-96	Single bracket	96" 3251mm	41" 1041mm	2.80
A-104-2-96	Double bracket with arms at 180°	192" 4876mm	41" 1041mm	4.86

## MOUNTING

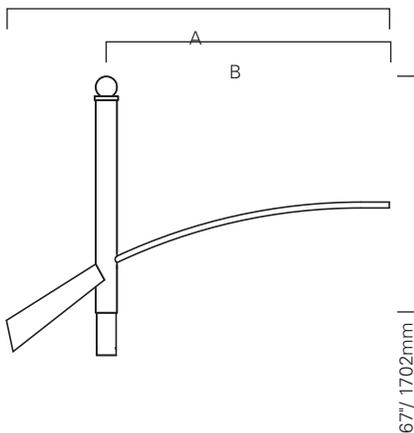
A-105



MODEL		A	B	EPA
A-105-1-48	Single bracket	48" 1219mm	36" 914mm	2.30
A-105-2-48	Double bracket with arms at 180°	96" 2438mm	36" 914mm	3.37
A-105-W	Wall bracket	96" 2438mm	36" 914mm	1.20
A-105-1-72	Single bracket	72" 1829mm	47" 1194mm	3.50
A-105-2-72	Double bracket with arms at 180°	144" 3658mm	47" 1194mm	5.40
A-105-1-96	Single bracket	96" 3251mm	58" 1473mm	4.40
A-105-2-96	Double bracket with arms at 180°	192" 4876mm	58" 1473mm	6.82

## MOUNTING

A-106

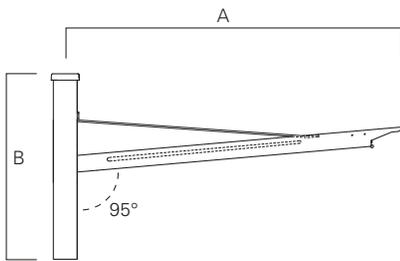


MODEL		A	B	EPA
A-106-1-84	Single bracket	84" 2134mm	56" 1422mm	6.28
A-106-1-108	Single bracket	108" 2743mm	72" 1829mm	6.55
A-106-1-112	Single bracket	112" 2845mm	84" 2134mm	6.69

# BRACKETS

## MOUNTING

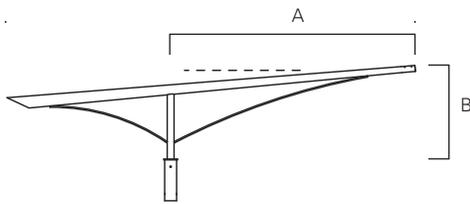
### A-107



MODEL		A	B	EPA
A-107-1-49	Single bracket	49" 1219mm	36" 914mm	3.49
A-107-2-49	Double bracket with arms at 180°	98" 2438mm	36" 914mm	5.49
A-107-W	Wall bracket	49" 1219mm	36" 914mm	2.12
A-107-1-71	Single bracket	71" 1803mm	36" 914mm	3.78
A-107-2-71	Double bracket with arms at 180°	142" 3607mm	36" 914mm	6.20
A-107-1-84	Single bracket	84" 2134mm	36" 914mm	4.25
A-107-2-84	Double bracket with arms at 180°	168" 4267mm	36" 914mm	7.01

## MOUNTING

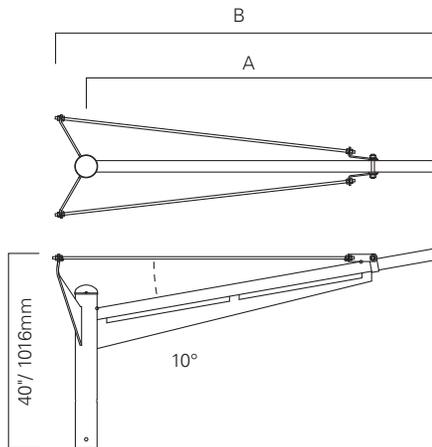
### A-108



MODEL		A	B	EPA
A-108-1-48	Single bracket	48" 1219mm	20" 508mm	3.46
A-108-1-72	Single bracket	72" 1829mm	27" 686mm	5.19
A-108-1-96	Single bracket	96" 3251mm	35" 889mm	6.89

## MOUNTING

### A-109

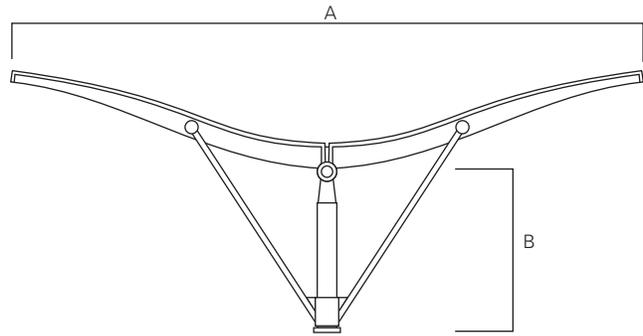
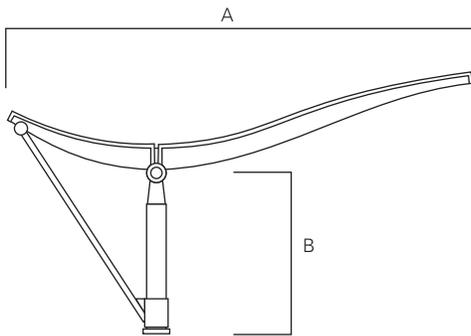
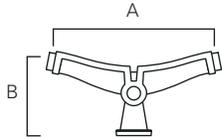
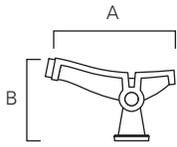


MODEL		A	B	EPA
A-109-1-60	Single bracket	60" 1524mm	54" 1372mm	3.53
A-109-1-78	Single bracket	78" 2743mm	72" 1981mm	4.90
A-109-1-102	Single bracket	102" 2591mm	96" 2438mm	6.27

# BRACKETS

## MOUNTING

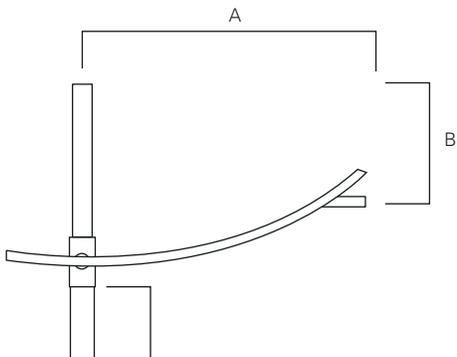
A-110



MODEL		A	B	EPA
A-110-1-8	Single bracket	10.0" 255mm	8.9" 225mm	1.92
A-110-2-8	Double bracket with arms at 180°	19.7" 500mm	8.9" 225mm	3.10
A-110-W-8	Wall bracket	8.3" 212mm	8.9" 225mm	1.20
A-110-1-66	Single bracket	107.8" 2738mm	33.5" 850mm	1.92
A-110-2-66	Double bracket with arms at 180°	127" 3225mm	33.5" 850mm	3.10

## MOUNTING

A-111



MODEL		A	B	EPA
A-111-1	Single bracket	47.2" 1200mm	19.7" 500mm	.xxx

## SPECIFICATIONS

Housing and Lens Frame: Made of die cast aluminum.

**Mounting:**

**MICRO** - Slips into a 1.38" O. D. (35mm) by 4 1/2" (115mm) long sleeve and is secured by three stainless steel pressure set screws.

**MIDI** - Sleeve accepts a 1 1/2" schedule 40 pipe, 1.90" O. D. (48mm) by 3 1/2" (89mm) long and is secured by three stainless steel pressure set screws.

**EXTREME** - Sleeve accepts a 2" schedule 40 pipe, 2.38" O. D. (60mm) by 8" (205mm) long and is secured by three stainless steel pressure set screws.

**Access:** A quarter turn spring loaded latch, permits tool free opening of the lens frame and easy access to the optical block for lamp replacement, and to the ballast housing and ballast plate. The door frame is attached to the housing with a stainless steel hinge.

**Ballast Plate:** Modular plate is made of 18 gauge galvanized steel, hinged to the housing, with a spring loaded locking clip, serviceable without tools.

**Ballast:** High power factor, -30°F (-30°C) lamp starting capacity, with polarized quick disconnect plugs with a positive lock feature.

**Lens:** Both the sag lens and flat lens are made of clear, shock resistant tempered glass.

**Reflector:** Made of aluminum, chemically brightened and anodized. The Sealsafe® optical system is rated IP66.

**Socket Shutter:** Injection molded glass fiber reinforced polymer. Removable with a quarter turn, injection molded silicone gasket (duro 60 shore A). Lamp holder is porcelain, thermal resistant, pulse rated at 4kV.

**Hardware:** All exposed screws are stainless steel. All seals and sealing devices are made of EPDM or silicone.

**Finish:** Application of polyester powder coat paint. The chemical composition provides a highly durable UV and salt spray resistant finish in accordance to the ASTM-B117 standard and humidity proof in accordance to the ASTM-D2247 standard.

**Electrical listing:** Wet Location listed per UL 1598 and CSA C22.2. IP rating for the optical system is 66.

**Warranty:** The Sealsafe® optical module is warranted to be free of intrusion of contaminants for a period of twenty years.

HESTIA MIDI  
HEM (CUSTOM ARM) P-201-0306-25 (POLE)



HESTIA

# Schröder



THE RIGHT LIGHT

In North America

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**Schröder Lighting LLC**

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fax 847 621.5121

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**Schröder**  
Schröder Group GIE

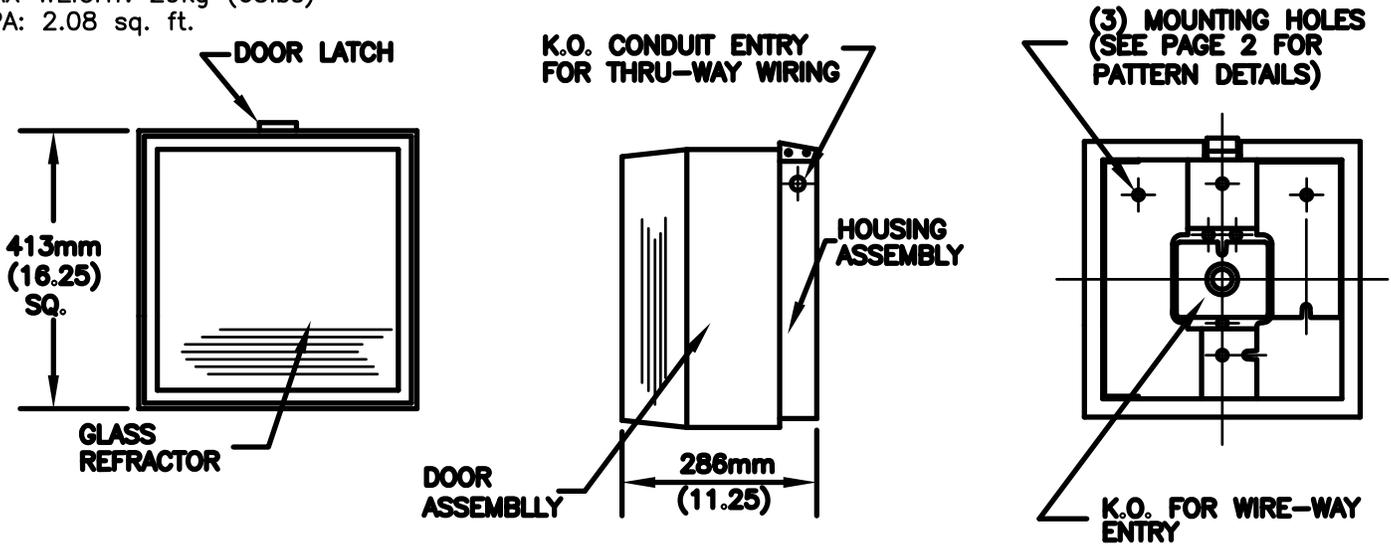


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# MODULE 600° LUMINAIRES

NOTE: U.L. LISTED TO U.S. AND CANADIAN SAFETY STANDARDS, WET LOCATIONS

MAX WEIGHT: 29kg (65lbs)  
EPA: 2.08 sq. ft.



## MW

MODULE 600  
SERIES LUMINAIRE

### SOURCE/WATTAGE

100HP=100W HPS  
15AHP=150W/55V HPS  
200HP=200W HPS  
250HP=250W HPS  
400HP=400W HPS  
175PM=175W PM  
175MH=175W MH \*  
250MH=250W MH \*  
250PM=250W PULSE MH  
320PM=320W PULSE MH  
400PM=400W PULSE MH  
400MH=400W MH \*

### VOLTAGE

12=120V  
20=208V  
24=240V  
27=277V  
34=347V  
48=480V  
MT=MULTIVOLT  
VT=MULTIVOLT  
(USED WITH 250HP,  
400HP, 250MH, 400MH ONLY)

### COLOR

K=BLACK  
Z=BRONZE  
W=WHITE  
G=GRAY

### OPTIONS:

AD=CONDUIT ADAPTOR  
(NOT AVAILABLE WITH QD OPTION)  
EM=STAND BY LIGHTING  
(NOT AVAILABLE WITH 480V)  
F1=SINGLE FUSING  
(NOT AVAILABLE WITH MT OR VT)  
F2=DOUBLE FUSING  
(NOT AVAILABLE WITH MT OR VT)  
PR=PHOTOCONTROL FOR 120V-347V  
(NOT AVAILABLE WITH 480V, MT OR VT)  
PS=PROTECTED STARTER FOR HPS UNITS ONLY  
QD=QUICK DISCONNECT  
(NOT AVAILABLE WITH AD OPTION)

**\* NOT AVAILABLE FOR SHIPMET IN US  
AFTER 12-31-08 DUE TO EISA 2007  
LEGISLATION.**

### ACCESSORIES:

LAMP = SHIP APPROPRIATE LAMP AS LINE ITEM  
MWPA = POLYCARBONATE SHIELD (SHIPS SEPARATE)  
MWSB = SUSPENSION BRACKET (SHIPS SEPARATE)  
MWSD = INTERNAL SHIELD (SHIPS SEPARATE)



ORDER NO: \_\_\_\_\_  
TYPE: \_\_\_\_\_

DRAWING NO. FM-1646  
CAD MODEL: MW600.DWG  
DATE: 6/3/13  
Sheet 1 OF 2

# Module® 600



The Module 600 luminaire plays a dual role as a pole or surface mounted luminaire. Small parking lots can be illuminated from building walls, avoiding pole and trenching costs. Alternatively, pole mounting on the perimeter to light lots with no back spill light in mixed use neighborhoods is an option. Thru-wiring and modular design allow installation of large numbers of Module 600 fixtures in a small space for superior tunnel and underpass lighting as well. The borosilicate glass refractor provides precise light control through a main beam panel for near cutoff performance, minimizes glare and resists thermal shock from rain or snow. Die cast aluminum housings and a seven stage polyester powder finish provide exceptional corrosion resistance. UL listed "Suitable for Wet Location", CSA certified.

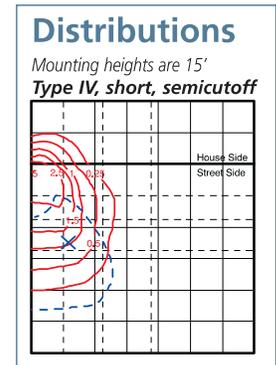
Module 600 luminaires provide an attractive appearance with a non-yellowing prismatic glass lens. The borosilicate glass lens also enables precise light control for various applications.

# Ordering Information

## How to Construct a Catalog Number

### Example:

<b>MW</b>	<b>100HP</b>	<b>12</b>	<b>G</b>	<b>F1</b>	<b>MWPA</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
LUMINAIRE	WATTAGE	VOLTAGE	COLOR	OPTIONS	ACCESSORIES
MW	100HP 100MV 15AHP 175MH 175MV 200HP 250HP 250MH 250MV 400HP 400MH 400MV	08 12 20 24 27 34 40 48 MT VT	G Z K W	F1 F2 PS AD QD PR	LAMP MWSD MWSB MWPA



## Typical Applications

- Underpasses
- Building Perimeters
- Parking Areas
- Tunnels
- Loading Docks

## Features

- Attractive appearance
- Prismatic glass optics
- Precise light control

## Lamp Types

- 175 - 400 watt metal halide
- 100 - 400 watt high pressure sodium
- 250 - 400 watt mercury vapor

## Approvals

- UL/CUL wet locations

## Catalog Number Information

<b>STEP 1: LUMINAIRE</b>	
<b>MW</b>	Module 600
	
<b>STEP 2: SOURCE AND WATTAGE</b>	
<b>100HP</b>	100W HPS
<b>15AHP</b>	150W HPS, 55V
<b>200HP</b>	200W HPS
<b>250HP</b>	250W HPS
<b>400HP</b>	400W HPS
<b>175MH</b>	175W MH
<b>250MH</b>	250W MH
<b>400MH</b>	400W MH
<b>100MV</b>	100W MV
<b>175MV</b>	175W MV
<b>250MV<sup>1</sup></b>	250W MV
<b>400MV<sup>1</sup></b>	400W MV
<sup>1</sup> Not available with "MT"	
<b>STEP 3: VOLTAGE</b>	
<b>08<sup>1</sup></b>	208V
<b>12</b>	120V
<b>20</b>	208V
<b>24</b>	240V
<b>27</b>	277V
<b>34</b>	347V
<b>40<sup>1</sup></b>	240V
<b>48</b>	480V
<b>MT<sup>2</sup></b>	Multi-voltage
<b>VT<sup>3</sup></b>	Vari-tap
<sup>1</sup> Isolated Secondary CAUL	
<sup>2</sup> 120, 208, 240 or 277V	
<sup>3</sup> 120, 277 or 347V; only available with 250HP, 400HP, 250MH and 400MH	

<b>STEP 4: COLOR</b>	
<b>G</b>	Gray
<b>Z</b>	Bronze
<b>K</b>	Black
<b>W</b>	White
<b>STEP 5: OPTIONS</b>	
<b>F1</b>	Single Fuse Assembly for 120, 240, 277 and 347V
<b>F2</b>	Double Fuse Assembly for 208, 240 and 480V
<b>PS</b>	Protected Starter for HPS
<b>AD<sup>1</sup></b>	Conduit Adapter
<b>QD<sup>2</sup></b>	Quick Disconnect
<b>PR<sup>3</sup></b>	Photocontrol for 120-347V
<sup>1</sup> Not available with "QD"	
<sup>2</sup> Not available WITH "AD"	
<sup>3</sup> Not available with "MT" or "VT"	
	<b>PR</b>
<b>STEP 6: ACCESSORIES</b>	
<b>Lamp</b>	Appropriate Lamp Shipped
<b>MWSD</b>	Internal Light Shield
<b>MWSB</b>	Suspension Bracket for Mounting Unit Vertically from a Horizontal Surface
<b>MWPA</b>	Polycarbonate Vandal Shield
	<b>MWPA</b>

## Specifications

The unit shall be Module 600 catalog number \_\_\_\_\_. The luminaire shall consist of a die cast aluminum housing which encloses the ballast, lamp socket and reflector; and a refractor door assembly. The housing assembly shall mount against the wall (or pole) and the refractor housing assembly shall fasten to it by means of concealed hinges and a single point, positive acting latch. There shall be two stainless steel retaining cables attached between the main housing and refractor frame. Overall dimensions shall be 16" square x 115/8" deep.

Units shall be prewired and equipped to be wall-mounted for surface wiring, or to a recessed outlet box, and shall require no tools for lamp replacement.

The optical train shall consist of the lamp, fluted specular aluminum reflector and molded prismatic borosilicate thermal shock-resistant glass refractor. The dimensions of the refractor shall be 16" square x 4" deep and shall have internal splitting prisms and external dispersing prisms. The refractor frame color shall be \_\_\_\_\_.

The integral ballast shall operate a \_\_\_\_\_ lamp and provide reliable starting at temperatures as low as -20°F. Starting line current shall be \_\_\_\_ amps and operating current \_\_\_\_ amps; power factor over 90% and lamp wattage regulation of ± \_\_\_\_% at ± \_\_\_\_% line voltage fluctuation.

Ballast shall be UL listed Class H; core, coil and capacitors shall be positioned for maximum heat dissipation. Supply wires to the unit are to be of proper temperature rating for the type of entry used. The housing shall be finished with a black polyester powder paint coating. The complete unit shall be CSA certified and UL listed as "Suitable for Wet Locations 40°C Ambient."