



**CITY OF BLOOMINGTON LED LIGHT FIXTURE UPGRADES FOR VARIOUS LOCATIONS**  
**RFP #2015-ESD-001**



**Addendum #2**

Question Number	RFP Section (if applicable)	Question	Response
1	2.9.2 f. & g.	<p>It states that the proposals also have to have a cost savings ROI with the calculations. Can you provide me with the existing data for the products to complete that?</p> <p>Current hours in use?</p> <p>Current wattage per fixture?</p> <p>Age of fixtures?</p>	<p><b><u>Parking Garages</u></b>            Approximate fixture age is fourteen (14) years.            Metal Halide Fixtures 100 watts.            Power 230 Volt System.            Lights are operational 24/7/365 days a year.</p> <p><b><u>Waldron, Hill, Buskirk Park</u></b>            We have no current information on the lights installed. You should just use the given wattage to calculate costs.            Approximate fixture age is twenty-year (20) years.            Lights are operational 365 days a year, dusk to dawn.</p> <p><b><u>B-Line Trail Lights</u></b>            Universe® Medium with HID Optic - UCM.            Approximate fixture age is seven (7) years.            Lights are operational 365 days a year, dusk to dawn.            See the following Spec sheet.</p>

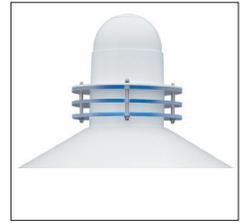
# Universe® Medium with HID Optic – UCM

TYPE |

- Modular system with five luminous options, four hood options, and two optical systems for customization to complement site design

- Type 2,3,4 and 5 full cut off horizontal reflectors (without luminous element)
- Opal acrylic lens, Type 5 distribution for soft, general lighting

- Pole, wall, and pendant mounting options
- IP65 construction
- Powder coat finish in 13 standard colors with a polymer primer sealer



UCM (HID)

1. LUMINAIRE	2. LUMINOUS HOOD	3. OPTICS	4. LAMP/BALLAST	5. COLOR	6. HOOD OPTIONS	7. OPTIONS	8. MOUNTING

## 1. LUMINAIRE

- UCM Universe medium

## 2. LUMINOUS /HOOD

### NO LUMINOUS & HOOD

- ANGLED BELL FLARED STRAIGHT SKIRTED  
 ANG  BEL  FLR  STR  SKB

### LUMINOUS & HOOD

- |                                  |                                 |                                  |                                  |
|----------------------------------|---------------------------------|----------------------------------|----------------------------------|
| 4 LUMINOUS WINDOWS               | SOLID RINGS                     | VERTICAL SLOTS                   | LUMINOUS RINGS                   |
| <input type="checkbox"/> WND-ANG | <input type="checkbox"/> SR-ANG | <input type="checkbox"/> VSL-ANG | <input type="checkbox"/> LUM-ANG |
| <input type="checkbox"/> WND-BEL | <input type="checkbox"/> SR-BEL | <input type="checkbox"/> VSL-BEL | <input type="checkbox"/> LUM-BEL |
| <input type="checkbox"/> WND-FLR | <input type="checkbox"/> SR-FLR | <input type="checkbox"/> VSL-FLR | <input type="checkbox"/> LUM-FLR |
| <input type="checkbox"/> WND-STR | <input type="checkbox"/> SR-STR | <input type="checkbox"/> VSL-STR | <input type="checkbox"/> LUM-STR |
| <input type="checkbox"/> WND-SKB | <input type="checkbox"/> SR-SKB | <input type="checkbox"/> VSL-SKB | <input type="checkbox"/> LUM-SKB |

## 3. OPTICS

### HORIZONTAL REFLECTOR (sag lens)

- H2 (Type 2)  H3 (Type 3)  
 H4 (Type 4)  H5 (Type 5)

### GLASS REFRACTOR

- GR3 (Type 3)  GR5 (Type 5)

### OPAL LENS (Acrylic. Maximum 100 watts)

- OAL

## 4. LAMP/BALLAST

### COMPACT FLUORESCENT

GE F70QBX lamp. -10°C min start temp

- PL57

### METAL HALIDE

Medium base, ED-17 lamp

- 50MH  70MH  100MH

G12 base, T-6 ceramic lamp

- 70MHT6

### ELECTRONIC METAL HALIDE

Medium base, ED-17 lamp

- 70MHEB  100MHEB  150MHEB  150MHT6EB

G12 base, T-6 ceramic lamp

- 70MHT6EB

### PULSE START METAL HALIDE

Medium base, ED-17 lamp

- 150PSMH  175PSMH (GR only)

G12 base, T-6 ceramic lamp

- 150PSMHT6

### HIGH PRESSURE SODIUM

Medium base, ED-17 lamp

- 50HPS  70HPS  100HPS  150HPS

### INDUCTION LAMP (OAL only, less luminous elements)

- IL-55 (55W)  IL-85 (85W)

All ballasts are factory wired for 277 volts, unless specified. Lamps not included, except LED.

## 5. COLOR

- |   |   |
|---|---|
| <input type="checkbox"/> AWT (Arctic White)     | <input type="checkbox"/> CRT (Corten)                                   |
| <input type="checkbox"/> BLK (Black)            | <input type="checkbox"/> MAL (Matte Aluminum)                           |
| <input type="checkbox"/> MTB (Matte Black)      | <input type="checkbox"/> MDG (Medium Grey)                              |
| <input type="checkbox"/> DGN (Dark Green)       | <input type="checkbox"/> ATG (Antique Green)                            |
| <input type="checkbox"/> DBZ (Dark Bronze)      | <input type="checkbox"/> LGY (Light Grey)                               |
| <input type="checkbox"/> WRZ (Weathered Bronze) | <input type="checkbox"/> RAL/PREMIUM COLOR (Provide RAL)                |
| <input type="checkbox"/> BRM (Metallic Bronze)  | <input type="checkbox"/> CUSTOM COLOR (Provide color chip for matching) |
| <input type="checkbox"/> VBL (Verde Blue)       |   |

## 6. OPTIONS - HOOD (The natural copper and stainless steel hoods are unfinished to develop a patina over time. All painted hoods have the underside of the hoods finished in high reflectance white.)

- COP (Copper)  STS (Stainless steel)

## 7. OPTIONS

- FTG (Flat glass lens)  
 RCK (Rock guard painted black)  
 SLC (Internal sleeve to block light when luminous element chosen)  
 FLD (Lightly diffused finish on flat glass lens)  
 HSS (House side shield. Not for Type 5)  
 347V (For HID, except 50MH & 50HPS)  
 QL (T-4 socket)  QRS (T-4 restrike controller & socket)  
 PMR (Post top mount, slips over a 4"/100mm pole. Reflector model only)  
 PM (Post top mount, GR3/5 & Opal lens only)  
 PMS (Pendant mount, 48"/1220mm stem & canopy with swivel)

### INNER LENS – (Lum only, Optional inner lens adds color to the ring edges when illuminated)

- BL (Blue)  GRN (Green)  RD (Red)

## 8. MOUNTING – Must choose one

### WALL MOUNT

- |                                 |                                |                                |                                |
|---------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="checkbox"/> WMA4   | <input type="checkbox"/> WMA5  | <input type="checkbox"/> WMA6  | <input type="checkbox"/> WMA8  |
| <input type="checkbox"/> WMA9D  | <input type="checkbox"/> WMA10 | <input type="checkbox"/> WMA11 | <input type="checkbox"/> WMA12 |
| <input type="checkbox"/> WMA16  | <input type="checkbox"/> WMA17 | <input type="checkbox"/> WMA18 | <input type="checkbox"/> WMA20 |
| <input type="checkbox"/> WMA22D | <input type="checkbox"/> WMA24 | <input type="checkbox"/> WMA37 | <input type="checkbox"/> WMA38 |
| <input type="checkbox"/> WMA39  |                                |                                |                                |

### POLE MOUNT

- |                                   |                                   |                                     |                                     |
|-----------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> SLA2     | <input type="checkbox"/> SLA3     | <input type="checkbox"/> SLA4       | <input type="checkbox"/> SLA4-2     |
| <input type="checkbox"/> SLA7     | <input type="checkbox"/> SLA7-2   | <input type="checkbox"/> SLA7(5)    | <input type="checkbox"/> SLA7(5)-2  |
| <input type="checkbox"/> SLA8D    | <input type="checkbox"/> SLA9     | <input type="checkbox"/> SLA9-2     | <input type="checkbox"/> SLA10      |
| <input type="checkbox"/> SLA10-2  | <input type="checkbox"/> SLA16    | <input type="checkbox"/> SLA16-2    | <input type="checkbox"/> SLA17      |
| <input type="checkbox"/> SLA17-2  | <input type="checkbox"/> SLA17(5) | <input type="checkbox"/> SLA17(5)-2 | <input type="checkbox"/> SLA18      |
| <input type="checkbox"/> SLA18-2  | <input type="checkbox"/> SLA20    | <input type="checkbox"/> SLA20-2    | <input type="checkbox"/> SLA20A     |
| <input type="checkbox"/> SLA20A-2 | <input type="checkbox"/> SLA20B   | <input type="checkbox"/> SLA20B-2   | <input type="checkbox"/> SLA20C     |
| <input type="checkbox"/> SLA20C-2 | <input type="checkbox"/> SLA20D   | <input type="checkbox"/> SLA20D-2   | <input type="checkbox"/> SLA22D     |
| <input type="checkbox"/> SLA24    | <input type="checkbox"/> SLA24-2  | <input type="checkbox"/> SLA24(5)   | <input type="checkbox"/> SLA24(5)-2 |
| <input type="checkbox"/> TRA4     | <input type="checkbox"/> TRA7     | <input type="checkbox"/> TRA7-2     | <input type="checkbox"/> TRA8       |
| <input type="checkbox"/> TRA8-2   | <input type="checkbox"/> TRA9     | <input type="checkbox"/> TRA9-2     |                                     |

Visit [www.aal.net](http://www.aal.net) for Arms, Poles & Accessories Specification Guide

## SPECIFICATIONS

### HOUSING

The fixture ballast housing shall be one-piece die-cast aluminum. The luminous rings shall be clear acrylic with an internal lens. The lens shall be lightly diffused acrylic, sealed to the housing and shade with molded silicone gaskets. The hood and spacers shall be heavy gauge spun aluminum with hemmed edges for added rigidity.

All internal and external hardware shall be stainless steel.

The fixture shall consist of a die cast aluminum door frame and ring assembly. The hood ring assembly shall be fully sealed with a molded silicone gasket. The door frame shall be hinged to the ring and opened with two captive fasteners for relamping. The tempered sag glass lens is held in the door frame with a molded silicone gasket.

GR3/5 – A borosilicate glass refractor lens with a Type 3 or Type 5 distribution shall be attached to an aluminum frame. Three captive fasteners shall be loosened to turn and remove the lens for relamping.

OAL – Molded opal acrylic lens and an aluminum frame. Three captive fasteners shall be loosened to turn and remove the lens for relamping.

### FULL CUTOFF (Horizontal only)

The reflector models, less luminous element, is classified as full cutoff, meaning there is zero light emitted at 90° horizontal or above.

### OPTICAL ASSEMBLY (Horizontal only)

The reflector module shall be composed of faceted, semi specular anodized aluminum panels rigidly attached in an aluminum tray. The reflector shall be easily removed by loosening four screws and lifting it out the tray. The reflector tray shall be rotatable on 90° centers for orienting the light distribution. The reflectors shall meet ANSI-IES standards for full cutoff (without luminous element).

### ELECTRICAL

The ballast shall be mounted on a prewired tray with a quick disconnect plug and removed by loosening two captive screws. HID ballasts are high power factor, rated for -30°C starting. Sockets are medium or G12 base, pulse rated porcelain. Ballasts are wired at the factory for 277 volts,

See next page

TYPE	_____
JOB	_____
NOTES	_____
	_____



# Universe® Medium with HID Optic – UCM

TYPE

The first dimension is the height of fixtures with horizontal reflectors.  
The second is for the height of fixtures with opal lens and the third is with the glass refractor.

## MOUNTING

The fixture shall be attached to the arm assembly with three stainless steel bolts. The connection shall be sealed with a silicone compression gasket.

PM – The post top version shall slip over a 4"/100mm O.D. pole or tenon, and secured with six stainless steel set screws.

## FINISH

Fixture finish consists of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

## CERTIFICATION

Listed with ETL for outdoor, wet location use. Conforms to UL1598 and Canadian CSA Std. C22.2 no.250 standard. The Luminaire shall be constructed to IP65 standards.

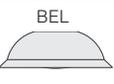
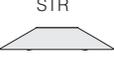
## WARRANTY / TERMS AND CONDITIONS OF SALE

Download:

<http://www.hubbellighting.com/resources/warranty/>

AAL reserves the right to change product specifications without notice.

## DIMENSIONS

HOOD	NO LUMINOUS	4 LUMINOUS WINDOW (WIN)	SOLID RINGS (SR)	VERTICAL SLOTS (VSL)	LUMINOUS RINGS (LUM)
 DIA: 20"/508mm	 14.7"/373mm 18"/457mm 16.7"/424mm	 20.5"/520mm 22.2"/563mm 20.8"/528mm	 20.7"/526mm 22.5"/572mm 21.1"/536mm	 20.5"/521mm 22.2"/564mm 20.8"/528mm	 20.6"/523mm 22.4"/569mm 21"/533mm
 DIA: 24"/610mm	 15.8"/401mm 18"/457mm 16.7"/424mm	 21.4"/543mm 22.2"/563mm 20.8"/528mm	 21.6"/549mm 22.5"/572mm 21.1"/536mm	 21.4"/543mm 22.2"/564mm 20.8"/528mm	 21.5"/546mm 22.4"/569mm 21"/533mm
 DIA: 22"/559mm	 14.5"/368mm 18.1"/435mm 16.8"/427mm	 19.8"/503mm 22.3"/566mm 21"/533mm	 20.1"/510mm 22.6"/574mm 21.2"/538mm	 19.8"/503mm 22.3"/566mm 21"/533mm	 20"/508mm 22.5"/574mm 21.1"/536mm
 DIA: 24"/610mm	 14"/355mm 18.1"/435mm 16.7"/424mm	 19.8"/503mm 22.3"/566mm 20.9"/531mm	 20"/508mm 22.5"/574mm 21.2"/538mm	 19.8"/503mm 22.3"/566mm 20.9"/531mm	 19.9"/505mm 22.5"/574mm 21.1"/536mm
 DIA: 24"/610mm	 19.7"/500mm 19.7"/500mm 19.7"/500mm	 23.9"/607mm 23.9"/607mm 23.9"/607mm	 24.2"/615mm 24.2"/615mm 24.2"/615mm	 23.9"/607mm 23.9"/607mm 23.9"/607mm	 24.1"/612mm 24.1"/612mm 24.1"/612mm

## WEIGHT & EPA

HOOD	LED		GLASS REFRACTOR		HORIZONTAL REFLECTOR		OPAL LENS	
	No luminous	WT (lbs)	EPA	WT	EPA	WT (lbs)	EPA	WT (lbs)
ANG	28.55	.60	22.30	.59	28.55	.60	19.40	.62
BEL	32.00	.73	24.25	.71	32.00	.73	21.35	.73
FLR	28.85	.53	22.60	.54	28.85	.53	19.70	.57
STR	31.75	.59	24.00	.60	31.75	.59	21.10	.63
SKB	32.10	.90	24.35	.90	32.10	.90	21.45	.90
4 Lum Window								
WND-ANG	30.70	.72	24.45	.72	30.70	.72	21.55	.75
WND-BEL	34.15	.85	26.40	.83	34.15	.85	23.50	.86
WND-FLR	31.00	.65	24.75	.66	31.00	.65	21.85	.70
WND-STR	33.90	.71	26.15	.72	33.90	.71	23.25	.76
WND-SKB	34.25	1.03	26.50	1.03	34.25	1.03	23.60	1.03
Solid Rings								
SR-ANG	33.70	.74	27.45	.74	33.70	.74	30.00	.77
SR-BEL	37.15	.87	29.40	.85	37.15	.87	30.00	.88
SR-FLR	34.00	.67	27.75	.68	34.00	.67	30.00	.72
SR-STR	36.90	.73	29.15	.74	36.90	.73	30.00	.78
SR-SKB	37.25	1.05	29.50	1.05	37.25	1.05	34.00	1.05
Vertical Slots								
VSL-ANG	31.45	.72	25.20	.72	31.45	.72	30.00	.75
VSL-BEL	34.90	.85	27.15	.83	34.90	.85	30.00	.86
VSL-FLR	31.75	.65	25.50	.66	31.75	.65	30.00	.70
VSL-STR	34.65	.71	26.90	.72	34.65	.71	30.00	.76
VSL-SKB	35.00	1.03	27.25	1.03	35.00	1.03	34.00	1.03
Lum Rings								
LUM-ANG	32.85	.74	26.60	.74	32.85	.74	30.00	.77
LUM-BEL	34.15	.85	28.55	.85	34.15	.85	30.00	.88
LUM-FLR	33.15	.67	24.75	.66	33.15	.67	30.00	.72
LUM-STR	36.05	.73	28.30	.74	36.05	.73	30.00	.78
LUM-SKB	36.40	1.05	28.65	1.05	36.40	1.05	34.00	1.05

## UCM H3 150MH FTG

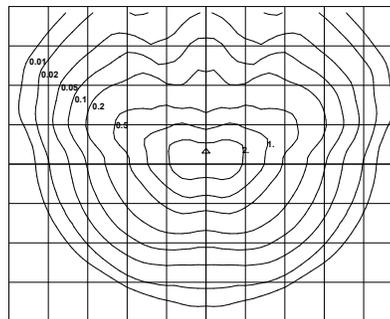
WATTAGE: 185

LUMEN OUTPUT: 7192

EFFICACY: 67.6

### B2 U0 G2

FORWARD LIGHT			LUMEN	
FL	30°	4.6%	577	
FM	60°	16.2%	2026	
FH	80°	14.8%	1850	
FVH	90°	0.2%	30	
BACK LIGHT				
BL	30°	3.9%	491	
BM	60°	11.7%	1469	
BH	80°	5.9%	738	
BVH	90°	0.1%	11	
UPLIGHT				
UL	100°	0%	0	
UH	180°	0%	0	



Mounting Height	Multiplier
10	4.000
15	1.778
20	1.000
25	0.640
30	0.444
35	0.327
40	0.250
45	0.198
50	0.160

UPLIGHT 0%  
DOWNLIGHT 100%

IES files can be found at [www.aal.net](http://www.aal.net)



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