ATTACHMENT A
SOLE SOURCE FACILITY JUSTIFICATION TRANSMITTAL

Public Contract Code section 3400 provides, in pertinent part, that:

"(a) The Legislature finds and declares that it is the intent of this section to encourage contractors and manufacturers to develop and implement new and ingenious materials, products, and services that function as well, in all essential respects, as materials, products, and services that are required by a contract, but at a lower cost to taxpayers.

(b) No agency of the state, nor any political subdivision, municipal corporation, or district, nor any public officer or person charged with the letting of contracts for the construction, alteration, or repair of public works, shall draft or cause to be drafted specifications for bids, in connection with the construction, alteration, or repair of public works, (1) in a manner that limits the bidding, directly or indirectly, to any one specific concern, or (2) calling for a designated material, product, thing, or service by specific brand or trade name unless the specification is followed by the words "or equal" so that bidders may furnish any equal material, product, thing, or service. In applying this section, the specifying agency shall, if aware of an equal product manufactured in this state, name that product in the specification. Specifications shall provide a period of time prior to or after, or prior to and after, the award of the contract for submission of data substantiating a request for a substitution of "an equal" item. If no time period is specified, data may be submitted any time within 35 days after the award of the contract.

(c) Subdivision (b) is not applicable if the awarding authority, or its designee, makes a finding that is described in the invitation for bids or request for proposals that a particular material, product, thing, or service is designated by specific brand or trade name for any of the following purposes:

(2) In order to match other products in use on a particular public improvement either completed or in the course of completion."

Selux Exterior Site Lights

This is a sole source procurement because:

- ☑ This is a sole provider of a licensed, copyrighted or patented good or service.
- ☑ This is a sole provider of items compatible with existing equipment or systems.
- ☐ This is a sole provider of factory-authorized warranty service.
- ☐ This is a sole provider of goods or services that perform a unique function in order to meet the specialized needs of the District. Please provide specific detail below.

The, Selux Exterior Site Lights, Model Quadro H2LED are the District's current standard exterior parking and street light fixture.

- ☑ There are overriding circumstances upon with the Board can find that the exception found in Public Contract Code section 3400 (c) (2) applies to the identified product(s). Please provide specific detail below as to what those circumstances are, and why this sole source procurement would be in the best interest of the District.

For aesthetics and consistency of parts and pieces having standard light fixtures on all campuses is highly recommended. The District has standardized on these fixtures for the past seventeen (17) years. Use of other fixtures would interrupt uniformity throughout all of the campuses.

This is a restricted brand or trade name, and no substitutions are allowed because:

☑ The requested product is an integral repair part or accessory compatible with existing equipment or systems.

Existing Equipment/System: Selux Exterior Site Lights
Manufacturer/Model Number: Selux Quadro H2LED

☑ The District has standardized on the requested product, and use of another brand/model would require considerable time and funding to evaluate or implement. Please provide additional detail below.

Over the last (17) seventeen Years, the District has standardized on these exterior site light at all three campuses and as recently as (4) years ago went to the LED version of these fixtures. Any change will impact the overall aesthetics around each campus and require additional storage and repair parts needed for on-hand inventory.

Supplier or Contractor Information:
Selux Corporation
5 Lumen Lane
PO Box 1060
Highland, NY 12528
(800)735-8927

RECOMMENDATION
Sufficient evidence has been provided upon which the Board can find that the exception found in Public Contract Code section 3400 (c) (2) applies to the identified product(s). Approve a finding to authorize use of the above stated exception for Exterior Site Lights in the MiraCosta Design Standards Manual for all the projects in the MM program. Require that said finding be included in all pertinent bid/proposal documents for those projects where such product(s) will be used.

SIGNATURE:

Tom Macias, Facilities Director — **Date** 9/14/18

Geoff Bachanas, PMO Director — **Date** 9/13/18

steinberg hart

ATTACHMENT B
SOLE SOURCE ARCHITECT/ENGINEERING JUSTIFICATION SUMMARY REPORT TRANSMITTAL

September 1, 2018

Re: Selux Exterior Lights

Within the Design & Construction Standards MiraCosta CCD has identified or designed various proprietary systems or products that meet specific District performance requirements, allow for seamless integration into existing systems, provide ease of maintenance, and afford a lower total cost of ownership. In these instances, the District is requesting that these systems and products shall be provided without substitution. The following Specification Section 26 56 00 is one that meets these special requirements.

Our experience working with other Colleges and Universities shows that single sources for some materials, products, equipment, and systems is a common approach to achieving best value.

We have reviewed the facility justification transmittal for the above-referenced item and believe that the District's sole-sourcing of this specification section meets the requirements for District's benefit as described above.

Sincerely,

Joe Sion
Associate Principal/Senior Manager

523 W 6th Street #245
Los Angeles CA 90014

Sole Source Item #5 - Selux Exterior Site Lights

Quadro 1

Quadro 1 constructed from die cast and formed, low copper aluminum with stainless steel fasteners · Lamping options include 39-150W HID with 8 unique refractor options for unparalleled visual appearance in a completely sealed optical chamber · Quadro is available with single or double pole top mounting or wall mounting and includes Selux standard Tiger Drylac certified polyester powder coat finish for superior wear resistance

Quadro 1

type II type III type IV type V

Mounting pole · wall

Lamping
MH 39–150W
HPS 50–150W

Options house side shield, single fusing, photocell tenon

for more detailed drawings, see spec sheet on website

NRTL WET-T ASTM and PCI finish

Quadro 2

Quadro 2 constructed from die cast and formed, low copper aluminum with stainless steel fasteners · Lamping options include 39-100W HID with 5 unique refractor options for unparalleled visual appearance in a completely sealed optical chamber · Quadro is available with single and double pole top mounting or wall mounting and includes Selux standard Tiger Drylac certified polyester powder coat finish for superior wear resistance

Quadro 2

type III type V

Mounting pole · wall

Lamping
MH 39–100W
HPS 50–100W

Options house side shield, single fusing, photocell tenon

for more detailed drawings, see spec sheet on website

NRTL WET-T ASTM and PCI finish

Quadrolisk

Quadrolisk constructed from die cast and formed, low copper aluminum with stainless steel fasteners · IES distribution types available for the Quadrolisk include Type III, IV and V · The Quadrolisk features a specialized integrated pole design and includes Selux standard Tiger Drylac certified polyester powder coat finish for superior wear resistance

Quadrolisk

type III type IV type V

Mounting pole

Lamping
MH 39–150W
HPS 50–150W

Options house side shield, single fusing, photocell tenon

for more detailed drawings, see spec sheet on website

NRTL ASTM and PCI finish

Quadro HO

Quadro HO constructed from die cast and spun, low copper aluminum with stainless steel fasteners · Precision formed aluminum reflectors inside a completely sealed optical chamber create IES distribution types II and V with an IDA-Approved "Dark Sky Friendly" performance option · The Quadro HO is available with single pole top mounting and includes Selux standard Tiger Drylac certified polyester powder coat finish for superior wear resistance

Quadro HO

type II type V

Mounting pole

Lamping
MH 100–400W
HPS 100–400W

Options dark sky, house side shield, single fusing, photocell tenon

for more detailed drawings, see spec sheet on website

NRTL ASTM and PCI finish

Sole Source Item #5 - Selux Exterior Site Lights

Quadro H2

Quadro H2 constructed from die cast and spun, low copper aluminum with stainless steel fasteners · Precision formed aluminum reflectors inside a completely sealed optical chamber create IES distribution types II, III and V with an IDA-Approved "Dark Sky Friendly" performance · The Quadro H2 is available with single or double pole top mounting or wall mounting and includes Selux standard Tiger Drylac certified polyester powder coat finish for superior wear resistance.

Quadro H2

type II type III type V

Mounting	pole · wall
Lamping	
MH	50–150W
HPS	50–150W
Options	house side shield, single fusing, photocell tenon

for more detailed drawings, see spec sheet on website

ASTM and PCI finish

Quadro H2 LED

Quadro H2 LED constructed from die cast and spun, low copper aluminum components with stainless steel fasteners · LED light engine uses Selux TL module technology with integrated thermal solution and optics · The Quadro H2 LED provides IES Type I, II, III, IV and V distributions all with IDA-Approved "Dark Sky Friendly" performance · The Quadro H2 LED is available with single or double pole top mounting or wall · Includes Selux standard Tiger Drylac certified polyester powder coat finish for superior wear resistance

Quadro H2 LED

type I type II type III type IV type V

Mounting	pole · wall
LED	40-58W
Options	dimming, house side shield, photocell tenon, hi-lo switching

for more detailed drawings, see spec sheet on website

ASTM and PCI finish

Sole Source Item #5 - Selux Exterior Site Lights

Date: _____ Customer: _____

Project: _____

Type: _____ Qty: _____

selux

Quadro H2 LED

Order Code: QH2L - ____ - ____ - ____ - ____ - ____ - ____ - ____ - ____

Pole Order Code: ____ - ____ - ____ - ____
Series Height Finish Options

QH2L	Series	**QH2L** Quadro H2 LED						
____	Optics	**R1** Type I Distribution	**R2** Type II Distribution	**R3** Type III Distribution	**R4** Type IV Distribution	**R5R** Type V (Round) Distribution	**R5S** Type V (Square) Distribution	
____	Mounting	**1** Single	**2** Double	**W** Wall Mount				
____	Light Engine	**5G350** Nominal 33W	**5G530** Nominal 49W	**5G700** Nominal 64W	**5G105** Nominal 95W	**5G140** Nominal 125W		
____	CCT	**30** 3000K	**40** 4000K					*IDA Approved with 3000K CCT *For other CCT, please consult factory.
____	Power Cord Length	**12** 12'	**15** 15'	**18** 18'	**20** 20'	**25** 25'	**XX** XX'	Add 2' if double mounting is used
____	Finish	**WH** White	**BK** Black	**BL** Semi-Matte Black	**BZ** Bronze	**SV** Silver	**SP** Specify Premium Color	
____	Voltage	**UNV** 120-277V	**347***	**480***				*Equipped with step down transformer
____	Options	**HS[3]** House Side Shield (180°)	**DM[1]** Dimming (0-10V)	**HL30[1,2]** Hi-Lo Switching Low Output 30%	**HL50[1,2]** Hi-Lo Switching Low Output 50%			[1] DM or HL only. Cannot be combined. [2] 120V, 240V, 277V only [3] Type I, II, III & IV only

Motion Sensor w/ Optional Photocell
(Meets Title 24 Requirements)
See Pole Spec Sheet for Order Code

Product Modifications

Please list modification requirements for review by factory:

Approvals

Date:

NRTL WET 5 UNION MADE

Sole Source Item #5 - Selux Exterior Site Lights

selux

QH2L

Specifications

1. Luminaire Cover - Formed low-copper aluminum cover hinges open for easy access to LED light engine.

2. Gasketing - Continuous molded gasket provides weatherproofing, dust and insect control at all luminaire connections.

3. Housing - Die-cast and spun low-copper aluminum components with stainless steel fasteners.

4. LED Array - High Flux LEDs mounted to metal core PCB and attached to external heat sink for maximum LED performance and life. CCT tolerance within a 3 step bin and provided with a minimum CRI of 80. LED light engine has a reported lumen maintenance of 98% at 50,000 hours. L70 calculated greater than 100,000 hours. Exposed face rated to IP65.

5. LED Optics - (not shown) Technical Optics (R1, R2, R3, R4, R5S and R5R) use Selux signature light pattern acrylic lens holder to secure proprietary silicone optics. Internal micro house side shield available for distributions types I, II, III & IV.

6. LED Driver - (not shown) LEDs are driven by RoHS compliant constant current programmable LED driver. Driver includes 0-10V dimming to 10%, meets the requirements of IP66. Driver assembly located inside head and accessible through the opening fixture cover.

7. Surge Protector - (Not shown) 3-Pole Surge protection device safeguards electrical components from indirect lighting strikes and surges up to (20kA standard). RoHS compliant.

8. Fixture Frame- (not shown) Four cast aluminum arms attach to pole fitter with recessed stainless steel Allen head screws

9. Pole Fitter- Cast aluminum fitter secures to pole with two stainless steel Allen head set screws. For 3 1/2" (90mm) O.D. pole.

Exterior Luminaire Finish - Selux utilizes a high quality Polyester Powder Coating. All Selux luminaires and poles are finished in our Tiger Drylac certified facility and undergo a five stage intensive pretreatment process where product is thoroughly cleaned, phosphated and sealed. Selux powder coated products provide excellent salt and humidity resistance as well as ultra violet resistance for color retention. All products are tested in accordance with test specifications for coatings from ASTM and PCI.

Standard exterior colors are White (WH), Black (BK), Matte Black (MB), Bronze (BZ) and Silver (SV). Selux premium colors (SP) are available, please specify from your Selux color selection guide.

5 Year Limited LED Luminaire Warranty - Selux offers a 5 Year Limited Warranty to the original purchaser that the Quadro H2 LED luminaire shall be free from defects in material and workmanship for up to five (5) years from date of shipment. This limited warranty covers the fixture, LED driver and LED light engine when installed and operated according to Selux instructions. Fixture suitable for ambient temperature of 40° C (104° F). For details and exclusions, see "Selux Terms and Condition of Sale."

Listings and Ratings: Tested to IESNA LM-79-08 and LM-80 test standards at 25° C ambient temperature. Rated for wet location.

Visit selux.us for our LED End of Life recycling policy.

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Motion Sensor Features

The Selux outdoor rated sensor incorporates Passive Infrared (PIR) technology for motion sensing and also includes a built in photocell. Designed to mount directly through a 1/2" KO in a single gang faceplate on pole/column, the SBO utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size while preventing false tripping from the environment.

Series	Optics	Hand Hole Orientation	Program	Color	Photocell Feature	Voltage
MS Motion Sensor	**1** 270° coverage - Single Sensor	**00**	**D0** (0V=0%)	**WH** White	**Y** Yes	**UNV**
		09	**D1** (1V=10%)	**BK** Black	**N** No	**347**
		18	**D3** (3V=30%)	**BZ** Bronze		**480**
		27	**D5** (5V=50%)			

NOTE: Motion sensor comes programmed at 30% dimmed level with a 5 min. delay as default. All programming required after shipping by others.

Sensor angular orientation from hand hole 0°

90° increments clockwise around pole (Type 00,09,18,27)

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Motion Sensor Features

- 100% Digital PIR Detection, excellent RF Immunity
- 270° coverage pattern
- Up to 30ft mounting
- IP66 Rated for outdoor applications
- Additional 10KvA surge protection included
- No minimum load requirements
- Made for LED light source
- Interchangeable hot and load wires - impossible to wire backwards
- Adjustable time delays, max/min dim levels and ramp rates
- Programming button accessible without opening sensor or removing gaskets
- No field calibration or sensitivity adjustments required
- Non-volatile setting memory
- Convenient test mode
- 5 year warranty
- Can be used to meet the requirements of Title 24.
- Default dim level=30%

General Pole Drawing For Example Only

Motion Sensor Wiring Diagram

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Mounting

Single (1)
Die-cast aluminum fitter base secured to pole with three stainless steel, Allen head set screws.

EPA = 1.23ft² (0.11m²)
Weight = 39lbs. (18kg)

Double (2)
Die-cast aluminum double luminaire mounting arm secured to pole with four stainless steel, Allen head set screws. Outer slip fitter for 3½" tenon.

EPA = 2.79ft² (0.26m²)
Weight = 116lbs. (53kg)

Wall (W)
Die-cast aluminum double round wall mount arm. Secured to wall with ¼" diameter threaded fasteners (by others).

EPA = 1.94ft² (0.18m²)
Weight = 63lbs. (29kg)

Wall Arm Mounting Detail
(Conduit and mounting hardware by others).

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Wiring Diagrams

Standard Wiring for UNV
Standard wiring for 120-277V with no additional options.

Standard Wiring for 347/480V
Standard wiring for 347/480V with no additional options.

0-10V Dimming Option (DM) Wiring for UNV
100% light output at 10V, down to 1% light output at 0V.

0-10V Dimming Option (DM) Wiring for 347/480V
100% light output at 10V, down to 1% light output at 0V.

Hi-Lo Switching Option (HL30 or HL50) Wiring
120/240/277V. When red is energized, light output will be at "Lo" level.

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Optional Accessories

GFCI Receptacle (REC) - 120V 15A GFCI duplex receptacle with cast base bolted to pole and gasketed, provided with weather-proof, self-closing cover; located 36" (915mm) from base of pole, inline with handhole. Receptacle is intended only for portable tools or other portable equipment to be connected to outlet only when attended by operating personnel.

Cover shown in the closed position

GFCI Receptacle (REC2) - 120V 15A GFCI duplex receptacle with cast base bolted to pole and gasketed, provided with weather-proof, self-closing padlockable cover; located 36" (915mm) from base of pole, inline with handhole. Receptacle is intended only for portable tools or other portable equipment to be connected to outlet only when attended by operating personnel.

Cover shown in the closed position

TLR Option - 7-pin NEMA receptacle (ANSI C136.41) with shorting cap.

TLR

TLRP Option - Twist-Lock Photocell mounted to 3-pin NEMA receptacle (ANSI C136.10).

TLRP

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Pole Information

Refer to pole specification sheets for construction details, anchorage information and additional options.

A35 & S35
Round Straight Aluminum
& Round Straight Steel Poles

S635
Round Stepped Steel Poles

Shown with standard base covers.

Bolt Circle for A35 & S35

Use caution when setting anchor bolts. Bolts must be vertically straight and centered on dimensions shown

Note: Adequate drainage must be provided in concrete foundation.

Anchor Bolt Detail for A35 & S35

Bolt Circle for S635

Use caution when setting anchor bolts. Bolts must be vertically straight and centered on dimensions shown.

Note: Adequate drainage must be provided in concrete foundation.

Anchor Bolt Detail for S635

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Pole Data Chart

Pole Series	Bolt Circle	EPA Information					Height	Finish	Options
		70mph	80mph	90mph	100mph	110mph			
S635 3 ½" Diameter Stepped Steel Pole	Ø9"	57.6	44.3	34.6	27.5	22.8	**8** 8ft.	**WH** White **BK** Black **BL** Semi-Matte Black **BZ** Bronze **SV** Silver **SP** Specify Premium Color	**BC1** Decorative Cast Aluminum Base Cover (for A35 & S35 poles only) **REC** GFCI Receptacle w/ weatherproof cover[1] (120V only) **REC2** GFCI Receptacle w padlockable in-use cover (120V only) **MS** Motion Sensor w/ Optional Photocell (Meets Title 24 Requirements) For PCT option, see p. 1 [1]Weatherproof cover intended for portable tools or other portable equipment connected to the outlet only when attended. For other requirements, please consult factory.
A35 3 ½" Diameter Straight Aluminum Pole	Ø7 ¾"	16.1	12.2	9.4	7.3	5.9			
S35 3 ½" Diameter Straight Steel Pole	Ø7 ¾"	14.8	11.3	8.6	6.7	5.4			
S635 3 ½" Diameter Stepped Steel Pole	Ø9"	45.6	35.0	27.3	21.6	17.8	**10** 10 ft.		
A35 3 ½" Diameter Straight Aluminum Pole	Ø7 ¾"	12.4	9.3	7.1	5.4	4.3			
S35 3 ½" Diameter Straight Steel Pole	Ø7 ¾"	11.4	8.6	6.5	4.9	3.9			
S635 3 ½" Diameter Stepped Steel Pole	Ø9"	37.6	28.7	22.3	17.5	14.4	**12** 12 ft.		
A35 3 ½" Diameter Straight Aluminum Pole	Ø7 ¾"	9.9	7.3	5.4	4.0	3.1			
S35 3 ½" Diameter Straight Steel Pole	Ø7 ¾"	9.1	6.7	4.9	3.6	2.8			
S635 3 ½" Diameter Stepped Steel Pole	Ø9"	31.7	24.2	18.6	14.6	11.9	**14** 14 ft.		
A35 3 ½" Diameter Straight Aluminum Pole	Ø7 ¾"	8.0	5.8	4.2	3.0	2.2			
S35 3 ½" Diameter Straight Steel Pole	Ø7 ¾"	7.3	5.3	3.8	2.7	1.9			
S635 3 ½" Diameter Stepped Steel Pole	Ø9"	21.7	15.8	12.3	9.6	7.6	**16** 16 ft.		
A35 3 ½" Diameter Straight Aluminum Pole	Ø7 ¾"	4.9	3.2	2.2	1.4	N/A			
S35 3 ½" Diameter Straight Steel Pole	Ø7 ¾"	4.4	2.8	1.9	1.2	N/A			

* Other pole configurations available, consult factory.

Base Cover Information

Refer to pole specification sheets for construction details, anchorage information and additional options.

Straight Poles (A35 & S35)
BC5 Standard Base Cover
Two-piece cast aluminum

Stepped Steel Pole (S635)
BC6 Standard Base Cover
One-piece cast aluminum

BC1 Optional Base Cover (A35 & S35)
One-piece cast aluminum

Photometry

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Quadro H2 LED Lumen Matrix					
Model#	Watts	Delivered Lumens	Lumens/Watt	Light Engine Multiplier	CCT Multiplier
QH2L-X-R1-5G350-30-XX-UNV	32.74	3148	96.2	0.543	3000K CCT Multiplier = 1.000
QH2L-X-R2-5G350-30-XX-UNV	32.67	3144	96.2		
QH2L-X-R3-5G350-30-XX-UNV	32.72	3111	95.1		
QH2L-X-R4-5G350-30-XX-UNV	33.14	3192	96.3		
QH2L-X-R5R-5G350-30-XX-UNV	32.62	3258	99.9		
QH2L-X-R5S-5G350-30-XX-UNV	32.71	3295	100.7		
QH2L-X-R1-5G530-30-XX-UNV	48.79	4449	91.2	0.768	
QH2L-X-R2-5G530-30-XX-UNV	48.68	4444	91.3		
QH2L-X-R3-5G530-30-XX-UNV	48.76	4397	90.2		
QH2L-X-R4-5G530-30-XX-UNV	49.39	4511	91.3		
QH2L-X-R5R-5G530-30-XX-UNV	48.62	4604	94.7		
QH2L-X-R5S-5G530-30-XX-UNV	48.75	4656	95.5		
QH2L-X-R1-5G700-30-XX-UNV	64.30	5795	90.1	1.000	
QH2L-X-R2-5G700-30-XX-UNV	64.16	5788	90.2		
QH2L-X-R3-5G700-30-XX-UNV	64.26	5727	89.1		
QH2L-X-R4-5G700-30-XX-UNV	65.09	5876	90.3		
QH2L-X-R5R-5G700-30-XX-UNV	64.07	5997	93.6		
QH2L-X-R5S-5G700-30-XX-UNV	64.25	6065	94.4		
QH2L-X-R1-5G105-30-XX-UNV	94.94	7562	79.7	1.305	
QH2L-X-R2-5G105-30-XX-UNV	94.73	7553	79.7		
QH2L-X-R3-5G105-30-XX-UNV	94.88	7473	78.8		
QH2L-X-R4-5G105-30-XX-UNV	96.11	7668	79.8		
QH2L-X-R5R-5G105-30-XX-UNV	94.60	7826	82.7		
QH2L-X-R5S-5G105-30-XX-UNV	94.87	7914	83.4		
QH2L-X-R1-5G140-30-XX-UNV	124.50	9344	75.1	1.612	
QH2L-X-R2-5G140-30-XX-UNV	124.23	9333	75.1		
QH2L-X-R3-5G140-30-XX-UNV	124.42	9234	74.2		
QH2L-X-R4-5G140-30-XX-UNV	126.03	9475	75.2		
QH2L-X-R5R-5G140-30-XX-UNV	124.05	9670	77.9		
QH2L-X-R5S-5G140-30-XX-UNV	124.40	9779	78.6		
QH2L-X-R1-5G350-40-XX-UNV	33.37	3289	98.6	0.543	4000K CCT Multiplier = 1.045
QH2L-X-R2-5G350-40-XX-UNV	32.67	3285	100.6		
QH2L-X-R3-5G350-40-XX-UNV	32.72	3250	99.3		
QH2L-X-R4-5G350-40-XX-UNV	33.14	3335	100.6		
QH2L-X-R5R-5G350-40-XX-UNV	32.62	3404	104.3		
QH2L-X-R5S-5G350-40-XX-UNV	32.71	3442	105.2		
QH2L-X-R1-5G530-40-XX-UNV	48.79	4648	95.3	0.768	
QH2L-X-R2-5G530-40-XX-UNV	48.68	4643	95.4		
QH2L-X-R3-5G530-40-XX-UNV	48.76	4594	94.2		
QH2L-X-R4-5G530-40-XX-UNV	49.39	4713	95.4		
QH2L-X-R5R-5G530-40-XX-UNV	48.62	4810	98.9		
QH2L-X-R5S-5G530-40-XX-UNV	48.75	4865	99.8		
QH2L-X-R1-5G700-40-XX-UNV	64.30	6055	94.2	1.045	
QH2L-X-R2-5G700-40-XX-UNV	64.16	6047	94.3		
QH2L-X-R3-5G700-40-XX-UNV	64.26	5984	93.1		
QH2L-X-R4-5G700-40-XX-UNV	65.09	6139	94.3		
QH2L-X-R5R-5G700-40-XX-UNV	64.07	6266	97.8		
QH2L-X-R5S-5G700-40-XX-UNV	64.25	6337	98.6		
QH2L-X-R1-5G105-40-XX-UNV	94.94	7901	83.2	1.305	
QH2L-X-R2-5G105-40-XX-UNV	94.73	7891	83.3		
QH2L-X-R3-5G105-40-XX-UNV	94.88	7808	82.3		
QH2L-X-R4-5G105-40-XX-UNV	96.11	8011	83.4		
QH2L-X-R5R-5G105-40-XX-UNV	94.60	8176	86.4		
QH2L-X-R5S-5G105-40-XX-UNV	94.87	8269	87.2		
QH2L-X-R1-5G140-40-XX-UNV	124.50	9763	78.4	1.612	
QH2L-X-R2-5G140-40-XX-UNV	124.23	9751	78.5		
QH2L-X-R3-5G140-40-XX-UNV	124.42	9648	77.5		
QH2L-X-R4-5G140-40-XX-UNV	126.03	9899	78.5		
QH2L-X-R5R-5G140-40-XX-UNV	124.05	10103	81.4		
QH2L-X-R5S-5G140-40-XX-UNV	124.40	10217	82.1		

***House Side Shield (HS) photometrics online**

Photometry

R1 Optics / 64W LED / 3000K CCT

Catalog #: QH2L-X-R1-5G700-30-XX-UNV
Delivered Lumens: 5794
Input Watts: 64.30W
Efficacy: 90 lm/W
CCT: 3271K
CRI (Ra): 82.9
Maximum candela of 3386 at 40°
IES classification: Type II
Mounting Height: 16' (4.9 m)
BUG Rating: B2-U0-G1
Power Factor: 0.994
Total Harmonic Distortion: 7.51%

Maximum Candela = 3386.2 Located At Horizontal Angle = 15, Vertical Angle = 40
1 - Vertical Plane Through Horizontal Angles (15 - 195) (Through Max. Cd.)

R2 Optics / 64W LED / 3000K CCT

Catalog #: QH2L-X-R2-5G700-30-XX-UNV
Delivered Lumens: 5787
Input Watts: 64.16W
Efficacy: 90 lm/W
CCT: 3271K
CRI (Ra): 82.9
Maximum candela of 3212 at 65°
IES classification: Type II
Mounting Height: 16' (4.9 m)
BUG Rating: B1-U0-G1
Power Factor: 0.994
Total Harmonic Distortion: 7.51%

Maximum Candela = 3212 Located At Horizontal Angle = 67.5, Vertical Angle = 55
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)

R3 Optics / 64W LED / 3000K CCT

Catalog #: QH2L-X-R3-5G700-30-XX-UNV
Delivered Lumens: 5725
Input Watts: 64.26W
Efficacy: 89 lm/W
CCT: 3271K
CRI (Ra): 82.9
Maximum candela of 3455 at 60°
IES classification: Type III
Mounting Height: 16' (4.9 m)
BUG Rating: B1-U0-G1
Power Factor: 0.994
Total Harmonic Distortion: 7.51%

Maximum Candela = 3455.4 Located At Horizontal Angle = 45, Vertical Angle = 60
1 - Vertical Plane Through Horizontal Angles (45 - 225) (Through Max. Cd.)