



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TRAFFIC DESIGN DIVISION**

SUITE 1800, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 253-1122

HOWARD H. ELEY
COMMISSIONER

BILL LEE
GOVERNOR

TO: Lori Lange, Assistant Chief of Engineering

FROM: Shane Hester, Executive Director of Engineering

SUBJECT: **Proprietary Item Request and Justification**
City of Murfreesboro

The City of Murfreesboro is requesting the following items be used in all signalization projects within their jurisdiction over the next three years where Federal and/or State funding are used.

- 1) **Traffic Signal Controllers:** Econolite Controllers including the Cobalt C-Series.
- 2) **Traffic Signal Central Software:** Econolite Centracs ATMS Central Software including Centrac's Adaptive Modules.
- 3) **Traffic Signal Network Switches:** Cisco Network Switches including the Cisco 3200 Series.
- 4) **Traffic Signal Detection:** NoTraffic Radar/Video Detection.
- 5) **CCTV Cameras:** Vicon Series CCTV Cameras.
- 6) **Accessible Pedestrian Signals (APS) System:** Pelco IntelliCross Devices.
- 7) **Roadway Lighting:** Holophane LED Light Fixtures.

The above items are essential for synchronization with existing facilities. The City of Murfreesboro staff has been extensively trained to install, operate, maintain, program, troubleshoot, and repair these items. This allows technicians to quickly diagnose issues which reduces the time required to maintain the system overall and helps keep the system operational during heavy traffic times to ensure maximum capacity of the synchronized system. By utilizing these items as the standard for the City of Murfreesboro, there will be a cost savings in stocking replacement equipment and will result in faster and less costly repair. See attached letter for additional justification details of this request.

Approval of items for proprietary use does not guarantee state or federal reimbursement on the project. The local government agrees to comply with all current, applicable provisions of the Build America Buy America (BABA) requirements established under 23 USC 313 and 23 CFR 635.410.

I, Shane Hester, Executive Director of Engineering of the Tennessee Department of Transportation, do hereby certify that in accordance with the requirements of Procedures for Using Patented or Proprietary Products (SOP 1-5) that the patented or proprietary items listed above are essential for the synchronization of existing facilities.



Executive Director of Engineering



Lori Lange (Mar 19, 2025 13:37 CDT)

Assistant Chief of Engineering

Mar 19, 2025

Date



... creating a better quality of life.

March 18, 2025

Steve Bryan, P.E., PTOE
TDOT Traffic Operations
Tennessee Department of Transportation
Suite 1800, James K. Polk Building
505 Deadrick Street
Nashville, TN 37243

SUBJECT: Proprietary Item Requests and Justifications

City of Murfreesboro

Dear Steve:

Traffic Signal Controllers and Central Software: The City of Murfreesboro is requesting that Econolite Cobalt-C traffic signal controllers and Centrac's ATMS with Centrac's Adaptive Modules Central Software be used in all signalization projects within the City of Murfreesboro over the next three years where Federal and/or State funding are used. The following are justification items for this request:

The City of Murfreesboro issued a Request for Qualifications (RFQ) on January 22, 2019, asking qualified vendors to submit proposals to provide services and equipment to operate as the City's Adaptive Signal Control Technology (ASCT) Vendor to provide equipment and services related to the construction of the Rutherford Boulevard ASCT. The RFQ contained several qualifications and system requirements, and each vendor was required to describe how they would satisfy those requirements. The qualifications and requirements included but were not limited to requirements as outlined in the FHWA Approved System Engineering Analysis Report (SEAR) document.

The deadline for proposals was February 15, 2019 and three (3) vendors submitted proposals to the City. The three (3) vendors were invited to make in-person demonstrations of their hardware and software solution. Once the demonstrations were completed as well as follow up conversations with project references, the City determined that the Centrac's ATMS with Centrac's Adaptive Module Central Software would best serve the City's needs for our ASCT System. The City currently utilizes the Centrac's Central Software with 125 licenses throughout the City where currently 100 intersections are online. With the I-24 Smart Corridor Project, five (5) corridors including sixty (60) intersections is on this system. The City intends to bring three new systems on-line in the near future totaling an additional forty-five (45) intersections.

When procuring Intelligent Transportation System (ITS) services and components, a traditional low-bid process may not ensure that the signal system is sufficiently integrated or customized for an agency's needs or requirements. Therefore, a competitive RFQ process, as outlined above, is recommended by the Federal Highway Administration (FHWA) for assessing and procuring complex ITS equipment and software.

Network Switches: The City of Murfreesboro is requesting that the Cisco 3200 series network switches be used in all signalization projects within the City of Murfreesboro over the next three years where Federal and/or State funding are used. The following are justification items for this request:

- The City's corridor strategy includes improving corridor reliability by reducing congestion and delays through traffic signal optimization, interconnectivity, and the installation of connected vehicle technologies. The effective operation of this strategy is reliant on Intelligent Transportation System field elements such as efficient communications between traffic signal controllers.
- As part of the I-24 Smart Corridor Project, provide synchronization with approximately sixty (62) signalized intersection that have the Cisco 3200 series network switch installed in the I-24 Smart Corridor project along with twenty-nine (29) of the peripheral intersections containing the Cisco 3200 series network switch.

Traffic Signal Detection: The City of Murfreesboro is requesting that NoTraffic radar/video traffic signal detection be used in all signalization projects within the City of Murfreesboro area over the next three years where Federal and/or State funding are used. The following are justification items for this request:

- The City's corridor strategy includes improving corridor reliability by reducing congestion and delays through traffic signal optimization, interconnectivity, and the installation of connected vehicle technologies. The effective operation of this strategy is reliant on Intelligent Transportation System field elements such as efficient and reliable vehicular detection equipment.
- The use of NoTraffic radar/video traffic signal detection equipment as the standard for the City of Murfreesboro Corridor projects will provide a more reliable and cost-effective approach of providing lane by lane as well as advanced detection incorporated into a single unit. The system detects traffic using fused video and radar sensors, object tracking, and machine learning algorithms, and incorporates a roadside unit (RSU) for V2Xcommunications. It provides a secure cloud platform with a variety of ITS apps including those for turning movement counts, timing optimization, signal performance measures, safety analytics, priority/preemption, cabinet monitoring, alerting/notifications, and connected vehicle.
- The use of NoTraffic radar/video traffic signal detection will be a cost savings in stocking replacement equipment that will result in faster and less costly repair. In addition, technicians will be able to quickly diagnose problems with field units which reduces the time required to maintain the system overall and helps keep the system operational during heavy traffic times to ensure maximum capacity of the synchronized system.
- As part of the City efforts to upgrade vehicle detection at existing and new intersections the City has approximately eight (8) signalized intersections that currently or will have NoTraffic radar/video traffic signal detection installed.

CCTV Camera: The City of Murfreesboro is requesting that Vicon series CCTV devices be used in all signalization projects within the City of Murfreesboro area over the next three years where Federal and/or State funding are used. The following are justification items for this request:

- The City of Murfreesboro currently has fifty-two (52) CCTV cameras in place operation on our system, all of which are the Vicon Model.
- The use of Vicon CCTV devices as the standard for the City of Murfreesboro signalization projects will be a cost savings in stocking replacement equipment that will result in faster and less costly repair. In addition, technicians will be able to quickly diagnose problems with field units and helps keep the system operational during heavy traffic times to insure maximum capacity of the synchronized system.

Accessible Pedestrian Signals (APS) System: The City of Murfreesboro is requesting that Pelco IntelliCross devices be used in all signalization projects within the City of Murfreesboro area over the next three years where Federal and/or State funding are used. The following are justification items for this request:

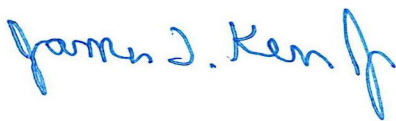
The City currently operates three different brands of APS (installed on State, Federal and Locally funded projects) Polera (4), Pelco (20) and Campbell (2). The City continues to install the Pelco equipment on locally funded projects due to the equipment's reliability as well as the staff's extensive training to install, operate, maintain and troubleshoot the Pelco system. By utilizing the Pelco IntelliCross equipment as the standard for the City, there will be a cost savings in stocking replacement equipment which will result in faster and less costly repairs.

High Mast Interchange Lighting: The City Murfreesboro is requesting the use of Holophane LED fixtures be used on all projects in the City of Murfreesboro over the next 3 years using federal or state funds. There are currently 7 interchanges that includes 431 high mast and 266 offset lighting in the City of Murfreesboro all utilizing the Holophane fixtures.

The City maintains an inventory of parts for the Holophane lighting system, as such, our service technicians have undergone extensive training on the maintenance of this system. Thank you for your consideration of this request to better serve the citizens of Murfreesboro with increased efficiency through normal operations and maintenance activities.

Please let me know if you have questions or need further information regarding this request.

Respectfully,

A handwritten signature in blue ink that reads "James J. Kerr". The signature is fluid and cursive, with a stylized "J" and "K".

Jim Kerr
Transportation Director

HMLED4

LED High Mast Lighting



Catalog Number	
Notes	Type

Mechanical

Rugged die cast, low copper content aluminum alloy electrical and optical housing are polyester powder coated with super durable paint for durability and corrosion resistance. Rigorous pre-treating and painting process yields a finish that achieves a scribe creepage rating of 10 (per ASTM D1654) after over 5,000 hours exposure to salt fog chamber (per ASTM B117). Enhanced corrosion resistance option (CR) includes an anodized pre-finish that achieves scribe creepage rating of 10 (per ASTM D1654) after over 20,000 hours of exposure to salt fog chamber (per ASTM B117). Four bolt horizontal arm mount with +/- 5 degree vertical adjustment provides 3g vibration rating per ANSI C136. Mast arm mount is adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8"). Two captive bolts or optional tool-less latches disengage top electrical cover for easy access to LED drivers, surge protection, and terminal block. IP66 rated LED modules, IP65 electrical assembly per IEC60068-2-3. Luminaire electrical and optical housing ship complete in one carton facilitating installation and minimizing carton disposal at jobsite.

Electrical

Quick disconnect connectors for ease of installation and maintenance. Extreme surge protection meets 20kV/10kA per ANSI/IEEE C62.41. Driver includes 0-10V dimming, meets maximum total harmonic distortion (THD) of 20%, and is ROHS compliant. A three stage terminal block is standard for ease of installation. Minimum operating temperature is -40°C. Electronic driver has an expected life of 100,000 hours at 25°C. XVOLT - Electrical option provides protection against dropped neutral in 277V input as derived from 480V Wye. XVOLT also provides greater immunity from six common power quality issues.

Optical

Chip on Board (COB) LED technology with color temperature options of 3000K, 4000K and 5000K with CRI of 70 minimum. Borosilicate prismatic glass optics ensure longevity and minimize dirt depreciation. Zero uplight optics reduce sky glow and meets Dark Sky requirements. Prismatic glass optics provide overlapping pattern on application space eliminating dark spots. Prismatic glass optics minimize direct view of LED, reducing glare. Rotatable optic assembly provides alignment of asymmetric distributions to roadway.

Controls (Optional)

Controls options include the PR3 and PR7 locking style photocontrol receptacles. The PR7 receptacle option is factory pre-wired to dimming leads of drivers.

PCLL - Extreme long life solid state locking-style photocontrol (20 year rated life)

ICMNYX - Nyx Hemera module, an onboard device that can receive power line control signals and communicate commands to the driver. Part of an overall Nyx Hemera control system and relies on components of the control system that are installed outside of the luminaire and provided separately.

Field Adjustable Output (AO) module — An onboard device that allows manual adjustment of the light output and input wattage to meet site specific requirements, allowing a single fixture configuration to be flexibly applied in many different applications. The AO module is pre-set at the factory to position 8 (100% output).

Testing Compliance

Luminaire conforms to the following standards:

- ANSI/IEEE extreme surge protection per C136.2
- ANSI C82.77-2002 harmonic distortion
- Vibration tested to 3g level per ANSI C136.31-2018
- Standard paint finish achieves scribe creepage rating of 10 (per ASTM D1654) after over 5,000 hours exposure to salt fog chamber (per ASTM B117)
- Enhanced corrosion resistance (CR) option achieves scribe creepage rating of 10 (per ASTM D1654) after over 20,000 hours of exposure to salt fog chamber (per ASTM B117).
- FCC Title 47 Part 15, subpart B
- Optical enclosure tested to IP66 ingress protection per IEC 60529:1999
- IEC 61000 – Electromagnetic Compatibility Testing (EMC)
- UL 1598, Wet Location – Safety Listing
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Manufacturing

Manufactured in Crawfordsville, Indiana. ARRA compliant. Test 100% electrical of all luminaires before shipment. No less than five (5) years experience in manufacturing LED-based products.

Government Procurement

BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/resources/buy-american for additional information.

Warranty

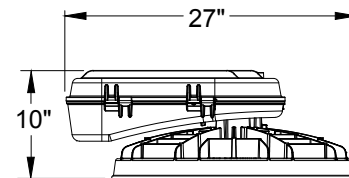
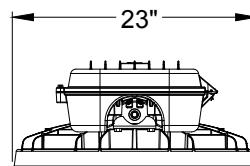
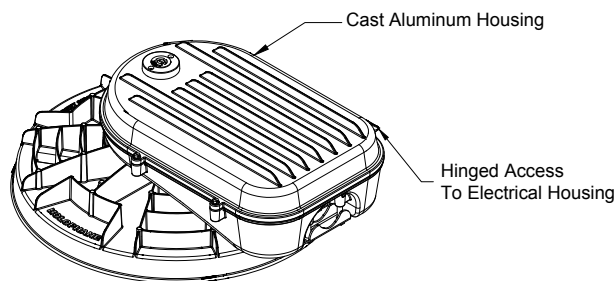
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.



DIMENSIONAL DATA



Weight = 68 lbs. max (See Table on Page 6 for Details)

EPA of Fixture = 1.30 sq. ft.

EPA of Fixture with Shield = 3.11 sq. ft.

UL1598, 50°C, Wet location P1, P2, P3, P4, P5

UL1598, 40°C, Wet location P6

UL1598, 30°C, Wet location P7

HMLED4

LED High Mast Luminaire



ORDERING INFORMATION

Example: HMLED4 P4 40K XVOLT HGR AW LTCH PR7

Series	Performance Package	Color temperature	Voltage	Housing Color	Optical	Options
HMLED4	P1 31,000 Lumens	30K 3000K CCT	MVOLT 120-277V	HAS As Specified	LN Long and Narrow	LTCH Tool-less latch closure
	P2 42,000 Lumens	40K 4000K CCT	HVOLT 347-480V	HGR Gray	MAS Medium, Asymmetric	CR Enhanced corrosion resistance
	P3 63,000 Lumens	50K 5000K CCT	XVOLT 277-480V with enhanced power quality protection	HGH Graphite	MAW Medium, Asymmetric Wide	AO Field Adjustable Output
	P4 85,000 Lumens			HBK Black	NAS Narrow, Asymmetric	SFD Single Fuse Disconnect
	P5 105,000 Lumens			HBZ Bronze	FTA Forward Throw, Asymmetric	DFD Double Fuse Disconnect
	P6 112,000 Lumens			HWH White	AN Area Narrow	PR3 3 Pin NEMA Receptacle
	P7 120,000 Lumens				AW Area Wide	PR7 7 Pin NEMA Receptacle
					AWS Area Wide Square	PCLL DTL DLL Photocontrol for 120-277V
						PCL3 DTL DLL Photocontrol for 347V
						PCL4 DTL DLL Photocontrol for 480V
						SH Shorting Cap
						ICMNYX Integrated Nyx Hemera Control
						DALI DALI driver option, consult factory

Accessories: Order as separate catalog number.	
HMLED1FUS10R	Single Fuse Accessory
HMLED2FUS10R	Double Fuse Accessory
HMLED4D90	90 Degree Shield
HMLED4D120	120 Degree Shield
HMLED4D180	180 Degree Shield

PERFORMANCE PACKAGE	DISTRIBUTION	SYSTEM WATTS	3000K		4000K		5000K	
			LUMENS	LPW	LUMENS	LPW	LUMENS	LPW
P1	LN	199	32,484	163	33,085	166	33,686	169
	MAS		29,689	149	30,238	152	30,787	155
	MAW		29,772	149	30,323	152	30,873	154
	NAS		29,864	150	30,416	153	30,968	156
	FTA		28,052	141	28,571	144	29,090	146
	AN		33,014	166	33,625	169	34,235	172
	AW		30,655	154	31,222	157	31,788	160
	AWS		30,589	154	31,155	157	31,720	159
P2	LN	295	46,264	157	47,120	160	47,975	162
	MAS		42,284	143	43,066	146	43,848	149
	MAW		42,401	144	43,186	147	43,970	149
	NAS		42,532	144	43,319	147	44,105	150
	FTA		39,952	135	40,691	138	41,430	140
	AN		47,019	159	47,889	162	48,758	165
	AW		43,659	148	44,466	151	45,273	153
	AWS		43,565	148	44,371	150	45,176	153
P3	LN	429	66,995	156	68,234	159	69,473	162
	MAS		61,231	143	62,363	145	63,495	148
	MAW		61,401	143	62,536	146	63,672	149
	NAS		61,590	144	62,729	146	63,868	149
	FTA		57,856	135	58,926	137	59,995	140
	AN		68,087	159	69,346	162	70,605	165
	AW		63,221	147	64,390	150	65,559	153
	AWS		63,086	147	64,253	150	65,420	152
P4	LN	582	86,109	148	87,701	151	89,294	153
	MAS		78,700	135	80,155	138	81,611	140
	MAW		78,919	136	80,378	138	81,838	141
	NAS		79,162	136	80,626	139	82,090	141
	FTA		74,359	128	75,734	130	77,109	132
	AN		87,513	150	89,131	153	90,749	156
	AW		81,258	140	82,761	142	84,264	145
	AWS		81,086	139	82,585	142	84,084	144
P5	LN	703	107,758	153	109,751	156	111,744	159
	MAS		98,487	140	100,308	143	102,129	145
	MAW		98,762	140	100,588	143	102,414	146
	NAS		99,065	141	100,897	144	102,729	146
	FTA		93,054	132	94,775	135	96,496	137
	AN		109,516	156	111,542	159	113,567	162
	AW		101,689	145	103,569	147	105,449	150
	AWS		101,472	144	103,348	147	105,225	150
P6	LN	753	112,822	150	114,908	153	116,995	155
	MAS		103,115	137	105,022	139	106,929	142
	MAW		103,403	137	105,315	140	107,227	142
	NAS		103,721	138	105,639	140	107,557	143
	FTA		97,427	129	99,229	132	101,030	134
	AN		114,663	152	116,783	155	118,903	158
	AW		106,467	141	108,436	144	110,405	147
	AWS		106,241	141	108,205	144	110,169	146
P7	LN	838 (MVOLT) 898 (HVOLT)	121,877	145	124,130	148	126,384	151
	MAS		111,391	133	113,450	135	115,510	138
	MAW		111,701	133	113,767	136	115,832	138
	NAS		112,045	134	114,117	136	116,188	139
	FTA		105,246	126	107,192	128	109,138	130
	AN		123,865	148	126,156	151	128,446	153
	AW		115,012	137	117,139	140	119,265	142
	AWS		114,767	137	116,889	139	119,011	142

OPTIONS MATRIX

		Performance Package							Color Temperature			Voltage			Housing Color						
		P1	P2	P3	P4	P5	P6	P7	30K	40K	50K	MVOLT	HVOLT	XVOLT	HAS	HGR	HGY	HBK	HBZ	HWH	
Performance Package	P1		N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P2	N		N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P3	N	N		N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P4	N	N	N		N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P5	N	N	N	N		N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P6	N	N	N	N	N		N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	P7	N	N	N	N	N	N		Y	Y	Y	Y	Y¹	N	Y	Y	Y	Y	Y	Y	
Color Temperature	30K	Y	Y	Y	Y	Y	Y	Y		N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	40K	Y	Y	Y	Y	Y	Y	Y	N		N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	50K	Y	Y	Y	Y	Y	Y	Y	N	N		Y	Y	Y	Y	Y	Y	Y	Y	Y	
Voltage	MVOLT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	Y	Y	Y	Y	Y	Y	
	HVOLT	Y	Y	Y	Y	Y	Y	Y¹	Y	Y	Y	N		N	Y	Y	Y	Y	Y	Y	
	XVOLT	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N		Y	Y	Y	Y	Y	Y	
Housing Color	HAS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	N	N	N	
	HGR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		N	N	N	N	
	HGY	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N		N	N	N	
	HBK	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N		N	N	
	HBZ	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N		N	
	HWH	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N		
Optics	LN	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	MAS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	MAW	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	NAS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	FTA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	AN	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	AW	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Options	AWS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	AO	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	DALI	RFD	RFD	RFD	RFD	RFD	RFD	N	RFD	RFD	RFD	RFD	N	N	RFD	RFD	RFD	RFD	RFD	RFD	
	SFD	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	DFD	Y	Y	Y	Y	Y	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PR3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PR7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PCLL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	
	PCL3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	
	PCL4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	
HSS	SH	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	ICMNYX	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	
	HMLEd4D90	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	HMLEd4D120	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	HMLEd4D180	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

Note: Options designated "RFD" require additional information. Consult factory

¹ P7 HVOLT is not suitable for use on ungrounded delta system. Consult factory for details.

HMLED4

LED High Mast Luminaire



OPTIONS MATRIX (continued)

		Options											Shielding		
		AO	DALI	SFD	DFD	PR3	PR7	PCLL	PCL3	PCL4	SH	ICMNYX	HMLED4D90	HMLED4D120	HMLED4D180
Performance Package	P1	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P2	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P3	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P4	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	P5	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
	P6	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
	P7	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Color Temperature	30K	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	40K	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	50K	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Voltage	MVOLT	Y	RFD	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y
	HVOLT	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
	XVOLT	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Housing Color	HAS	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	HGR	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	HGY	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	HBK	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	HBZ	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	HWH	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Optics	LN	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	MAS	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	MAW	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	NAS	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	FTA	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	AN	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	AW	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	AWS	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Options	AO		N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
	DALI	N		RFD	RFD	RFD	RFD	RFD	RFD	RFD	RFD	N	RFD	RFD	RFD
	SFD	Y	RFD		N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	DFD	Y	RFD	N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	PR3	Y	RFD	Y	Y		N	Y	Y	Y	Y	N	Y	Y	Y
	PR7	Y	RFD	Y	Y	N		Y	Y	Y	Y	N	Y	Y	Y
	PCLL	Y	RFD	Y	Y	Y	Y		N	N	N	N	Y	Y	Y
	PCL3	Y	RFD	Y	Y	Y	Y	N		N	N	N	Y	Y	Y
	PCL4	Y	RFD	Y	Y	Y	Y	N	N		N	N	Y	Y	Y
	SH	Y	RFD	Y	Y	Y	Y	N	N	N		N	Y	Y	Y
HSS	ICMNYX	N	N	Y	Y	N	N	N	N	N	N		Y	Y	Y
	HMLED4D90	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N
	HMLED4D120	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	N		N
	HMLED4D180	Y	RFD	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	

Note: Options designated "RFD" require additional information. Consult factory

Adjustable Output Reponse (AO)		
AO Position	% Lumen Output	% Wattage
1	21%	19%
2	33%	31%
3	46%	43%
4	58%	56%
5	70%	68%
6	82%	81%
7	94%	94%
8 (factory default)	100%	100%

Luminaire Ambient Temperature (LAT) Factor					
0C	15C	25C	35C	40C	50C
1.05	1.02	1.00	0.98	0.97	0.96

P1 thru P5 qualified to 50°C

P6 qualified to 40°C

P7 qualified to 30°C

ICMNYX option qualified to 40°C

Lumen Package	LED Lumen Maintenance					
	0 hours	25,000 hours	50,000 hours	60,000 hours	75,000 hours	100,000 hours
P1 thru P4	100%	96%	92%	91%	89%	85%
P5	100%	96%	92%	90%	88%	84%
P6	100%	95%	91%	89%	87%	82%
P7	100%	94%	89%	87%	84%	79%

The *italicized* data is extrapolated beyond the TM-21 standard

	Input Operating Amps					
	120V	208V	240V	277V	347V	480V
P1	1.69	0.97	0.84	0.73	0.58	0.42
P2	2.48	1.43	1.24	1.08	0.86	0.62
P3	3.59	2.07	1.80	1.56	1.24	0.90
P4	4.87	2.81	2.44	2.11	1.69	1.22
P5	5.85	3.38	2.93	2.53	2.02	1.46
P6	6.28	3.62	3.14	2.72	2.17	1.57
P7	6.97	4.02	3.48	3.02	2.65	1.92

Fixture Weight	
P1 thru P2	47 lbs
P3 thru P4	53 lbs
P5 thru P7	59 lbs
P7 HVOLT	68 lbs

Catalog Number	
Notes	Type

MGLEDM

Mongoose Medium LED



The Mongoose Medium LED offset roadway and area lighting product provides significant energy and maintenance savings vs. HID luminaires. It offers the ultimate in application flexibility with a uniquely designed advanced optical system and attractive appearance. This combined with multiple lighting distributions, mounting options and the ability to tilt the fixture offers unequalled performance in a diverse set of applications ranging from interstates and parking lots.

Mechanical

- Rugged grade A360 diecast aluminum (<1% copper)
- Tool-less access with stainless steel latches
- Terminal block in arm
- Rigorous 5-stage pretreatment polyester topcoat to ensure maximum durability that achieves a scribe creepage rating of 8 after 5,000 hours of salt spray
- Removable "power tray" facilitates maintenance
- Corrosion resistant stainless-steel latches ensure secure closure over the long fixture life
- Horizontal mast arms or vertical tenon (VH) and universal mounting to round and square poles (UN) options
- Universal mount mates to all major manufacturer's hole patterns
- All Mountings are 3G vibration rated per ANSI C136.31
- Adjustable fixture tilt from 0-45 degrees provides flexibility to optimize lighting performance

Electrical

- Standard surge protection is 20kV/10kA "Extreme Level" per ANSI C136.2
- LED light engines are rated > 100,000 at 25°C, L70
- Electronic driver has an expected life of > 100,000 hours at 25°C
- Rated for -40°C / (-40°F) minimum ambient
- Programmable electronic driver with 0-10V control leads
- Driver voltage options: 120-277V 50/60 Hz and 347 50/60 Hz and 480V 50/60 Hz
- Luminaire ships with a 0-10v dimmable driver. Luminaire is continuous and step dimming capable via AO option or controls installed on P7 photocontrol receptacle option.

Optical

- Performance is comparable to 150-400 watt HPS or 175-1,000 watt MH
- IP66 rated borosilicate glass optics ensure longevity and minimize dirt depreciation
- Molded Silicone optics: Area (Type 5) (AR), Forward Throw (FT), Medium Roadway (MR), Narrow Roadway (NR) and Wide Roadway (WR)
- Borosilicate glass refractor optics: Area (AG), Forward Throw (FG), Medium Roadway (MG), Narrow Roadway (NG) and Wide Roadway (WG)
- 2700K, 3000K, 4000K and 5000K CCT, 70 CRI
- Optional Uplight Skirt (US) when used with refractor ensures zero uplight above 90°
- House side shield (HSS), light trespass shield and option available
- Wire guard kit option available

Controls

- The Acuity designed ANSI 7-pin receptacle is available, which supports traditional locking style photocontrols such as the Extreme long-life solid-state locking style photocontrol - PCLL (20 year rated life).
- Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and also can allow a single fixture to be flexibly applied in many different applications.
- The DC Connect option is a factory embedded low voltage dusk to dawn photocontrol that increases longevity vs. line voltage controls and also eliminates the need to separately inventory controls.
- Integral nLight rSDGR control is also available to provide local or network on/off/ dim control plus robust outdoor motion detection and response at up to 40' mounting heights.
- The LocalConnect option provides a simple means to collect luminaire attribute data, asset location information and execute point-to-point on/off/dim commands via secure Bluetooth link using smartphone platforms.
- The GlobalConnect option enabled thru selection of receptacles and controls provides a smart city enabled solution utilizing long range network nodes to enable remote monitoring and control. Additionally, it can be equipped with sensor-ready technology to support Zhaga standard sensors.
- Cell Connect is an embedded network photocontrol with cellular communication. It provides digital switching, precise dimming, and revenue grade metrology. Cell Connect leverage D4i drivers to communicate real-time data to UbiVu, a cloud-based asset management system.

Certification & Standards

- CSA Certified to US and Canadian standards
- Suitable for operation in an ambient temperature up to 40°C

Government Procurement

BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/resources/buy-american for additional information.

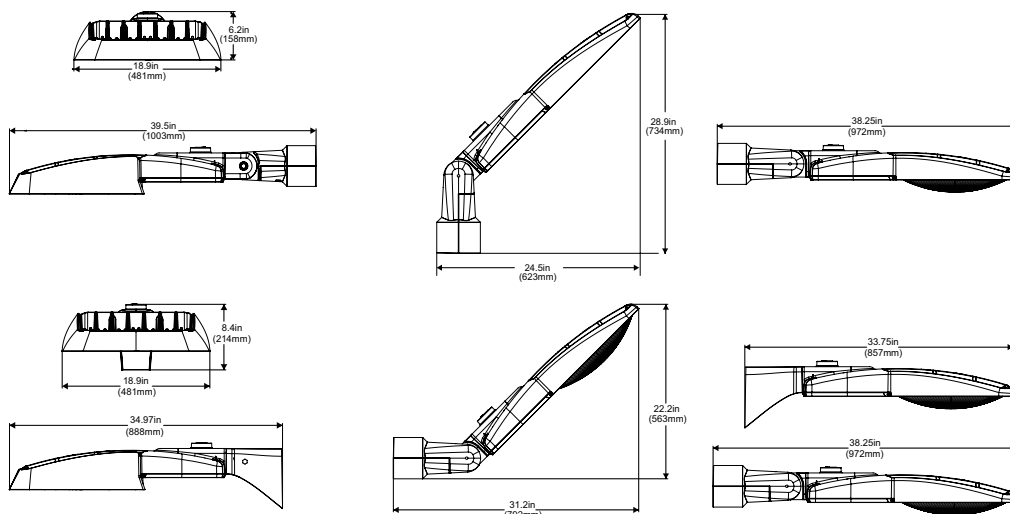
Warranty

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25°C

DIMENSIONAL DATA



Mounting/Optic	Tilt	Weight	EPA
VH	0°	35 lbs.	1.64 sq. ft.
VH with Refractor & US		44 lbs.	
VH	45°	35 lbs.	2.85 sq. ft.
VH with Refractor & US		44 lbs.	
UN	0°	31 lbs.	1.64 sq. ft.
UN with Refractor & US		38 lbs.	

ORDERING INFORMATION

Series		LED performance package				Color temperature		Voltage		Driver	
MGLEDM	Mongoose Medium	P11	9500 Lumen Package	P21	19000 Lumen Package	27K	2700K CCT	MVOLT	Auto-sensing voltage (120 thru 277) HVOLT347 HVOLT 347 Volt HVOLT480 HVOLT 480 Volt XVOLT277 XVOLT 277 Volt XVOLT347 XVOLT 347 Volt XVOLT480 XVOLT 480 Volt	ZT	Zero to Ten Driver
		P12	11500 Lumen Package	P22	22000 Lumen Package	30K	3000K CCT	D4i		D4i Driver	
		P13	13000 Lumen Package	P23	25000 Lumen Package	40K	4000K CCT				
		P14	15200 Lumen Package	P24	28000 Lumen Package	50K	5000K CCT				
		P15	18600 Lumen Package	P25	31000 Lumen Package						
		P16	22000 Lumen Package	P26	34000 Lumen Package						
		P17	26000 Lumen Package	P27	37000 Lumen Package						
				P28	40500 Lumen Package						
				P29	44000 Lumen Package						
				P30	51000 Lumen Package						

Optics		Mounting		Super Durable Paint		Options					
AG	Area with Refractor	VH	Vertical Tenon/ Horizontal Arm	GRSD	Gray	<u>Top Receptacle</u>			<u>NEMA Label Options</u>		
AR	Area			GHSB	Graphite	ZRT	Zhaga receptacle on top of fixture			NL NEMA LABEL	
FG	Forward Throw with Refractor	UN	Universal (Rd. & Sq)	BKSD	Black	PR7	7-pin photocontrol receptacle			<u>Power Tray</u>	
FT	Forward Throw			GNSD	Green	NTR	No top receptacle			PT Removable Power Tray	
MG	Medium Roadway with Refractor			WHSD	White	<u>Receptacle Bottom</u>			<u>Shielding Options</u>		
MR	Medium Roadway			BZSD	Bronze	ZRB	Zhaga receptacle on bottom of fixture			US Uplight Skirt	
NG	Narrow Roadway with Refractor			DDBSD	Dark Bronze	NBR	No bottom receptacle			HSS House Side Shield	
NR	Narrow Roadway			<u>Adjustable/Programmable Options</u>			<u>Shorting Cap Option</u>				
WG	Wide Roadway with Refractor			AO	Field Adjustable Output			SH SHORTING CAP			
WR	Wide Roadway			<u>Control Options</u>							
				PCLL	DTL Extreme Long Life Twistlock Photocontrol for Solid State (20 year rated life)						
				DZP	Low Voltage Zhaga photocontrol						
				<u>Embedded Control</u>							
				DDC	DC Connect photocontrol. Requires D4i Driver and NBR						
				RSDGR ¹	nLight Air Occ. and daylight sensor						
				ALCB	Local Connect Basic. Requires D4i driver & NBR						
				ALCF	Local Connect Full. Requires D4i driver & NBR						
				ALCC	Local Connect Custom. Requires D4i driver & NBR						
				UBC	Cellular Network Lighting Control. Requires D4i driver & NTR						

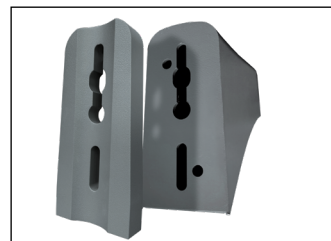
Accessories: Order as separate catalog number.		
<u>Wire Guard Kit</u>		<u>Controls Training</u> LCTRAIN Local Connect Remote Training; 1 day training provided by Acuity Services Team
MGLEDM WG	Mongoose Medium Wire Guard Kit	
<u>Light Trespass Shield</u>		
MGLEDM LTS	Mongoose Medium Light Trespass Shield	
<u>Uplight Skirt</u>		
MGLEDM US GRSD	Mongoose Medium Uplight Skirt, Gray	
MGLEDM US GHSD	Mongoose Medium Uplight Skirt, Graphite	
MGLEDM US BKSD	Mongoose Medium Uplight Skirt, Black	
MGLEDM US GNSD	Mongoose Medium Uplight Skirt, Green	
MGLEDM US WHSD	Mongoose Medium Uplight Skirt, White	
MGLEDM US BZSD	Mongoose Medium Uplight Skirt, Bronze	
MGLEDM US DDBSD	Mongoose Medium Uplight Skirt, Dark Bronze	
<u>House Side Shield</u>		
MGLEDM HSS 1LE	Mongoose Medium House Side Shield, 1 Light Engine	
MGLEDM HSS 2LE	Mongoose Medium House Side Shield, 2 Light Engine	

Notes
1 Not available with NL.

MOUNTING OPTIONS



Vertical Tenon/Horizontal Arm Mount – VH
Attaches to 2" vertical tenon or horizontal mast arm (2 3/8" O.D.)



Universal Mount – UN
Attaches to square or 3" minimum round pole

OPTIONS MATRIX

MGLEDM		Driver		Photocontrols			Embedded Controls					Sensor	Receptacle Top			Receptacle Bottom		Other Options	
		ZT	D4i	PCLL	SH	DZP	DDC	ALCB	ALCF	ALCC	UBC	RSDGR	NTR	PR7	ZRT	NBR	ZRB	AO	NL
Driver	ZT			Y	Y	N	N	N	N	N	N	Y	Y	Y	N	Y	N	Y	Y
	D4i			Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y
Photocontrols	PCLL	Y	Y		N	N	N	N	N	N	N	N	N	Y	N	Y	Y	Y	Y
	SH	Y	Y	N		N	Y	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	Y
	DZP	N	Y	N	N		N	N	N	N	N	N	N	N	Y	Y	Y	N	Y
Embedded Controls	DDC	N	Y	N	Y	N		N	N	N	N	N	Y	Y	Y	Y	N	N	N
	ALCB	N	Y	N	Y	N	N		N	N	N	N	Y	Y	Y	Y	N	N	N
	ALCF	N	Y	N	Y	N	N	N		N	N	N	Y	Y	Y	Y	N	N	N
	ALCC	N	Y	N	Y	N	N	N	N		N	N	Y	Y	Y	Y	N	N	N
	UBC	N	Y	N	N	N	N	N	N	N		N	Y	N	N	Y	Y	N	Y
Sensor	RSDGR	Y	N	N	N	N	N	N	N	N	N		Y	N	N	Y	N	N	N
Receptacle Top	NTR	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y				Y	Y	Y	Y
	PR7	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N				Y	Y	Y	Y
	ZRT	N	Y	N	N	Y	Y	Y	Y	Y	N	N				Y	Y	N	Y
Receptacle Bottom	NBR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			Y	Y
	ZRB	N	Y	Y	Y	Y	N	N	N	N	Y	N	Y	Y	Y			N	N
Other Options	AO	Y	N	Y	Y	N	N	N	N	N	N	N	Y	Y	N	Y	N		Y
	NL	Y	Y	Y	Y	Y	N	N	N	N	Y	N	Y	Y	Y	Y	N	Y	

Y = Valid Option Combination

N = Combination Not available

D4i Driver Option Defaults					
Setting	Receptacle Top	Receptacle Bottom	Embedded Control / Photocontrol	Default Value	Alternate Values
DALI Power Bus	NTR	NBR	none	ON	Off
	NTR	NBR	ALCB / ALCF / ALCC	ON	none
	NTR	NBR	DDC	ON	none
	NTR	ZRB	none	ON	Off
	NTR	NBR	UBC	ON	none
	NTR	ZRB	UBC	ON	none
	PR7	NBR	none	OFF	On
	PR7	NBR	ALCB / ALCF / ALCC	ON	none
	PR7	ZRB	none	OFF	On
	ZRT	NBR	none	ON	Off
	ZRT	NBR	ALCB / ALCF / ALCC	ON	none
	ZRT	NBR	DDC	ON	none
	ZRT	ZRB	none	ON	Off
	ZRT	NBR	DZP	ON	Off
	ZRT	ZRB	DZP	ON	Off
Dimming Type	All	All	Any	LINEAR	Logarithmic
24V AUX	All	All	Any	ON (Not Connected)	none
Scenes Data	All	All	Any	0 (blank)	01-255

*To program different settings, consult factory; RFD is required

MGLEDM

Mongoose Medium LED



PERFORMANCE DATA

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P11	AG	60	9,464	156.6	3	2	1	9,886	163.6	3	2	1	10,248	169.6	3	2	1	0.96	0.95	0.94
	AR		10,060	166.5	3	0	2	10,509	173.9	3	0	2	10,893	180.3	3	0	2			
	FG		8,251	136.5	2	2	3	8,619	142.6	2	2	3	8,934	147.8	2	2	3			
	FT		8,774	145.2	2	0	3	9,165	151.7	2	0	3	9,501	157.2	2	0	3			
	MG		8,963	148.3	2	2	2	9,363	154.9	2	2	2	9,705	160.6	2	2	2			
	MR		9,494	157.1	2	0	2	9,918	164.1	2	0	2	10,281	170.1	2	0	2			
	NG		9,025	149.3	2	2	2	9,428	156.0	2	2	2	9,773	161.7	2	2	2			
	NR		9,476	156.8	2	0	1	9,899	163.8	2	0	1	10,261	169.8	2	0	2			
	WG		8,473	140.2	2	2	2	8,851	146.5	2	2	2	9,174	151.8	2	2	2			
	WR		8,904	147.3	2	0	2	9,301	153.9	2	0	2	9,641	159.5	2	0	2			
P12	AG	74	11,259	151.6	3	2	2	11,761	158.4	3	2	2	12,191	164.2	3	2	2	0.96	0.95	0.94
	AR		11,968	161.2	3	0	2	12,501	168.3	3	0	2	12,959	174.5	4	0	2			
	FG		9,815	132.2	2	2	3	10,253	138.1	2	3	3	10,628	143.1	2	3	3			
	FT		10,438	140.6	2	0	3	10,903	146.8	2	0	3	11,302	152.2	2	0	3			
	MG		10,662	143.6	2	2	2	11,138	150.0	2	2	2	11,545	155.5	2	2	2			
	MR		11,294	152.1	2	0	2	11,798	158.9	2	0	2	12,230	164.7	2	0	2			
	NG		10,737	144.6	3	2	2	11,215	151.0	3	2	2	11,626	156.6	3	2	2			
	NR		11,273	151.8	2	0	2	11,775	158.6	3	0	2	12,206	164.4	3	0	2			
	WG		10,079	135.7	2	2	2	10,529	141.8	2	2	2	10,914	147.0	2	2	2			
	WR		10,592	142.6	2	0	2	11,064	149.0	2	0	2	11,469	154.4	2	0	2			
P13	AG	82	12,924	157.0	3	2	2	13,500	164.0	3	2	2	13,994	170.0	3	2	2	0.96	0.95	0.94
	AR		13,737	166.9	4	0	2	14,350	174.3	4	0	2	14,875	180.7	4	0	2			
	FG		11,266	136.8	2	3	3	11,769	142.9	2	3	3	12,199	148.2	2	3	3			
	FT		11,981	145.5	2	0	3	12,515	152.0	2	0	3	12,973	157.6	2	0	3			
	MG		12,239	148.7	2	2	2	12,785	155.3	2	2	2	13,252	161.0	2	2	2			
	MR		12,964	157.5	2	0	2	13,543	164.5	2	0	2	14,038	170.5	2	0	2			
	NG		12,324	149.7	3	2	2	12,874	156.4	3	2	2	13,345	162.1	3	2	2			
	NR		12,940	157.2	3	0	2	13,517	164.2	3	0	2	14,011	170.2	3	0	2			
	WG		11,570	140.5	2	2	2	12,086	146.8	3	2	2	12,528	152.2	3	2	2			
	WR		12,158	147.7	2	0	2	12,700	154.3	2	0	2	13,165	159.9	2	0	2			
P14	AG	105	14,783	141.2	4	2	2	15,443	147.5	4	2	2	16,008	152.9	4	2	2	0.96	0.95	0.94
	AR		15,714	150.1	4	0	2	16,415	156.8	4	0	2	17,015	162.5	4	0	2			
	FG		12,888	123.1	2	3	3	13,462	128.6	2	3	3	13,955	133.3	2	3	3			
	FT		13,705	130.9	2	0	3	14,317	136.8	2	0	3	14,840	141.8	2	0	3			
	MG		14,000	133.7	2	2	2	14,625	139.7	2	2	2	15,160	144.8	2	2	2			
	MR		14,830	141.7	2	0	2	15,491	148.0	2	0	2	16,058	153.4	2	0	2			
	NG		14,098	134.7	3	2	2	14,726	140.7	3	2	2	15,265	145.8	3	2	2			
	NR		14,802	141.4	3	0	2	15,462	147.7	3	0	2	16,027	153.1	3	0	2			
	WG		13,235	126.4	3	2	3	13,825	132.1	3	2	3	14,331	136.9	3	2	3			
	WR		13,908	132.8	3	0	2	14,528	138.8	3	0	3	15,059	143.8	3	0	3			

PERFORMANCE DATA (continued)

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P15	AG	121	18,306	150.7	4	2	2	19,122	157.5	4	2	2	19,822	163.2	4	2	2	0.96	0.95	0.94
	AR		19,459	160.2	4	0	2	20,326	167.4	4	0	2	21,070	173.5	4	0	2			
	FG		15,959	131.4	3	3	3	16,670	137.3	3	3	3	17,280	142.3	3	3	3			
	FT		16,971	139.7	2	0	3	17,728	146.0	3	0	4	18,377	151.3	3	0	4			
	MG		17,336	142.8	3	2	2	18,109	149.1	3	2	3	18,772	154.6	3	2	3			
	MR		18,364	151.2	3	0	3	19,183	158.0	3	0	3	19,885	163.7	3	0	3			
	NG		17,457	143.8	3	2	2	18,235	150.2	3	2	2	18,903	155.7	3	2	2			
	NR		18,329	150.9	3	0	2	19,146	157.7	3	0	2	19,847	163.4	3	0	2			
	WG		16,388	134.9	3	3	3	17,119	141.0	3	3	3	17,745	146.1	3	3	3			
	WR		17,222	141.8	3	0	3	17,990	148.1	3	0	3	18,648	153.6	3	0	3			
P16	AG	147	21,505	146.3	4	3	2	22,464	152.8	4	3	2	23,285	158.4	4	3	2	0.96	0.95	0.94
	AR		22,859	155.5	4	0	2	23,878	162.4	4	0	2	24,751	168.4	4	0	2			
	FG		18,747	127.5	3	3	4	19,583	133.2	3	3	4	20,299	138.1	3	3	4			
	FT		19,937	135.6	3	0	4	20,826	141.7	3	0	4	21,587	146.9	3	0	4			
	MG		20,366	138.5	3	2	3	21,274	144.7	3	3	3	22,052	150.0	3	3	3			
	MR		21,573	146.8	3	0	3	22,535	153.3	3	0	3	23,359	158.9	3	0	3			
	NG		20,507	139.5	3	2	3	21,422	145.7	3	2	3	22,205	151.1	3	2	3			
	NR		21,531	146.5	3	0	2	22,491	153.0	3	0	3	23,314	158.6	3	0	3			
	WG		19,252	131.0	3	3	3	20,110	136.8	3	3	3	20,846	141.8	3	3	3			
	WR		20,231	137.6	3	0	3	21,133	143.8	3	0	3	21,906	149.0	3	0	3			
P17	AG	178	25,227	141.6	4	3	2	26,351	147.9	4	3	2	27,315	153.3	4	3	2	0.93	0.91	0.89
	AR		26,815	150.5	5	0	3	28,010	157.2	5	0	3	29,035	162.9	5	0	3			
	FG		21,992	123.4	3	3	4	22,972	128.9	3	3	4	23,813	133.6	3	3	4			
	FT		23,387	131.2	3	0	4	24,430	137.1	3	0	4	25,324	142.1	3	0	4			
	MG		23,890	134.1	3	3	3	24,955	140.0	3	3	3	25,868	145.2	3	3	3			
	MR		25,307	142.0	3	0	3	26,435	148.3	3	0	3	27,402	153.8	3	0	3			
	NG		24,056	135.0	3	3	3	25,129	141.0	3	3	3	26,048	146.2	3	3	3			
	NR		25,258	141.7	3	0	3	26,384	148.1	3	0	3	27,349	153.5	3	0	3			
	WG		22,584	126.7	3	3	3	23,591	132.4	3	3	3	24,454	137.2	3	3	3			
	WR		23,732	133.2	3	0	3	24,790	139.1	3	0	3	25,697	144.2	3	0	3			

PERFORMANCE DATA (continued)

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P21	AG	118	19,445	164.6	4	2	2	20,312	172.0	4	3	2	21,055	178.3	4	3	2	0.96	0.96	0.95
	AR		20,669	175.0	4	0	2	21,591	182.8	4	0	2	22,381	189.5	4	0	2			
	FG		16,951	143.5	3	3	3	17,707	149.9	3	3	3	18,355	155.4	3	3	4			
	FT		18,027	152.6	3	0	4	18,831	159.4	3	0	4	19,520	165.3	3	0	4			
	MG		18,415	155.9	3	2	3	19,236	162.9	3	2	3	19,940	168.8	3	2	3			
	MR		19,506	165.2	3	0	3	20,376	172.5	3	0	3	21,122	178.8	3	0	3			
	NG		18,543	157.0	3	2	2	19,370	164.0	3	2	3	20,078	170.0	3	2	3			
	NR		19,469	164.9	3	0	2	20,337	172.2	3	0	2	21,081	178.5	3	0	2			
	WG		17,408	147.4	3	3	3	18,184	154.0	3	3	3	18,849	159.6	3	3	3			
	WR		18,293	154.9	3	0	3	19,109	161.8	3	0	3	19,808	167.7	3	0	3			
P22	AG	139	22,514	161.6	4	3	2	23,518	168.8	4	3	2	24,378	175.0	4	3	2	0.96	0.96	0.95
	AR		23,931	171.8	4	0	2	24,998	179.4	4	0	2	25,913	186.0	5	0	3			
	FG		19,627	140.9	3	3	4	20,502	147.2	3	3	4	21,252	152.5	3	3	4			
	FT		20,872	149.8	3	0	4	21,803	156.5	3	0	4	22,600	162.2	3	0	4			
	MG		21,321	153.0	3	3	3	22,272	159.9	3	3	3	23,087	165.7	3	3	3			
	MR		22,585	162.1	3	0	3	23,592	169.3	3	0	3	24,455	175.5	3	0	3			
	NG		21,470	154.1	3	2	3	22,427	161.0	3	2	3	23,247	166.9	3	2	3			
	NR		22,542	161.8	3	0	3	23,547	169.0	3	0	3	24,408	175.2	3	0	3			
	WG		20,155	144.7	3	3	3	21,054	151.1	3	3	3	21,824	156.6	3	3	3			
	WR		21,180	152.0	3	0	3	22,124	158.8	3	0	3	22,934	164.6	3	0	3			
P23	AG	159	25,133	158.3	4	3	2	26,254	165.3	4	3	2	27,214	171.4	4	3	2	0.96	0.96	0.95
	AR		26,715	168.2	5	0	3	27,907	175.7	5	0	3	28,927	182.2	5	0	3			
	FG		21,910	138.0	3	3	4	22,887	144.1	3	3	4	23,724	149.4	3	3	4			
	FT		23,300	146.7	3	0	4	24,339	153.3	3	0	4	25,230	158.9	3	0	4			
	MG		23,802	149.9	3	3	3	24,863	156.6	3	3	3	25,773	162.3	3	3	3			
	MR		25,213	158.8	3	0	3	26,337	165.9	3	0	3	27,300	171.9	3	0	3			
	NG		23,967	150.9	3	3	3	25,036	157.7	3	3	3	25,952	163.4	3	3	3			
	NR		25,164	158.5	3	0	3	26,286	165.5	3	0	3	27,248	171.6	3	0	3			
	WG		22,500	141.7	3	3	3	23,503	148.0	3	3	3	24,363	153.4	3	3	3			
	WR		23,644	148.9	3	0	3	24,698	155.5	3	0	3	25,602	161.2	3	0	3			
P24	AG	181	28,058	155.2	4	3	2	29,309	162.1	4	3	2	30,382	168.0	5	3	3	0.96	0.96	0.95
	AR		29,825	165.0	5	0	3	31,155	172.3	5	0	3	32,294	178.6	5	0	3			
	FG		24,460	135.3	3	3	4	25,551	141.3	3	3	4	26,486	146.5	3	3	4			
	FT		26,012	143.9	3	0	4	27,172	150.3	3	0	5	28,166	155.8	3	0	5			
	MG		26,572	147.0	3	3	3	27,757	153.5	3	3	3	28,772	159.1	3	3	3			
	MR		28,147	155.7	3	0	3	29,402	162.6	3	0	3	30,478	168.6	3	0	3			
	NG		26,757	148.0	4	3	3	27,950	154.6	4	3	3	28,972	160.2	4	3	3			
	NR		28,093	155.4	3	0	3	29,346	162.3	4	0	3	30,419	168.2	4	0	3			
	WG		25,119	138.9	3	3	3	26,239	145.1	3	3	3	27,199	150.4	3	3	3			
	WR		26,396	146.0	3	0	3	27,573	152.5	3	0	3	28,582	158.1	3	0	3			
P25	AG	208	30,923	148.9	5	3	3	32,302	155.5	5	3	3	33,483	161.2	5	3	3	0.96	0.96	0.95
	AR		32,870	158.3	5	0	3	34,335	165.3	5	0	3	35,591	171.4	5	0	3			
	FG		26,958	129.8	3	3	4	28,159	135.6	3	3	5	29,190	140.5	3	3	5			
	FT		28,668	138.0	3	0	5	29,946	144.2	3	0	5	31,042	149.5	3	0	5			
	MG		29,285	141.0	3	3	3	30,591	147.3	3	3	3	31,710	152.7	3	3	3			
	MR		31,021	149.4	3	0	3	32,404	156.0	3	0	3	33,589	161.7	3	0	4			
	NG		29,489	142.0	4	3	3	30,803	148.3	4	3	3	31,930	153.7	4	3	3			
	NR		30,961	149.1	4	0	3	32,342	155.7	4	0	3	33,525	161.4	4	0	3			
	WG		27,683	133.3	3	3	3	28,918	139.2	3	3	4	29,976	144.3	3	3	4			
	WR		29,091	140.1	3	0	3	30,388	146.3	3	0	3	31,500	151.7	3	0	4			

PERFORMANCE DATA (continued)

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P26	AG	233	33,953	145.4	5	3	3	35,467	151.9	5	3	3	36,765	157.5	5	3	3	0.96	0.96	0.95
	AR		36,091	154.6	5	0	3	37,700	161.5	5	0	4	39,080	167.4	5	0	4			
	FG		29,599	126.8	3	3	5	30,919	132.4	3	3	5	32,050	137.3	3	3	5			
	FT		31,478	134.8	3	0	5	32,881	140.8	3	0	5	34,084	146.0	3	0	5			
	MG		32,155	137.7	3	3	3	33,589	143.9	3	3	3	34,817	149.1	3	3	3			
	MR		34,061	145.9	3	0	4	35,580	152.4	3	0	4	36,881	158.0	3	0	4			
	NG		32,379	138.7	4	3	3	33,822	144.9	4	3	3	35,060	150.2	4	3	3			
	NR		33,996	145.6	4	0	3	35,511	152.1	4	0	3	36,811	157.7	4	0	3			
	WG		30,397	130.2	4	3	4	31,752	136.0	4	3	4	32,914	141.0	4	3	4			
	WR		31,942	136.8	3	0	4	33,366	142.9	3	0	4	34,587	148.1	4	0	4			
P27	AG	250	36,680	146.9	5	3	3	38,316	153.4	5	3	3	39,717	159.1	5	3	3	0.96	0.96	0.95
	AR		38,989	156.1	5	0	4	40,728	163.1	5	0	4	42,218	169.1	5	0	4			
	FG		31,976	128.1	3	3	5	33,402	133.8	4	3	5	34,624	138.7	4	3	5			
	FT		34,006	136.2	3	0	5	35,522	142.3	3	0	5	36,821	147.5	4	0	5			
	MG		34,737	139.1	3	3	3	36,286	145.3	4	3	3	37,613	150.6	4	3	3			
	MR		36,796	147.4	3	0	4	38,437	153.9	3	0	4	39,843	159.6	4	0	4			
	NG		34,979	140.1	4	3	3	36,538	146.3	4	3	3	37,875	151.7	4	3	3			
	NR		36,726	147.1	4	0	3	38,363	153.6	4	0	3	39,767	159.3	4	0	3			
	WG		32,838	131.5	4	3	4	34,302	137.4	4	3	4	35,557	142.4	4	3	4			
	WR		34,507	138.2	4	0	4	36,046	144.4	4	0	4	37,365	149.6	4	0	4			
P28	AG	281	39,718	141.5	5	3	3	41,489	147.8	5	3	3	43,006	153.2	5	3	3	0.96	0.95	0.93
	AR		42,218	150.4	5	0	4	44,101	157.1	5	0	4	45,714	162.9	5	0	4			
	FG		34,624	123.3	4	3	5	36,168	128.8	4	3	5	37,491	133.6	4	3	5			
	FT		36,822	131.2	4	0	5	38,463	137.0	4	0	5	39,871	142.0	4	0	5			
	MG		37,614	134.0	4	3	3	39,291	140.0	4	3	4	40,728	145.1	4	3	4			
	MR		39,844	141.9	4	0	4	41,620	148.3	4	0	4	43,143	153.7	4	0	4			
	NG		37,875	134.9	4	3	3	39,564	140.9	4	3	3	41,012	146.1	4	3	3			
	NR		39,767	141.7	4	0	3	41,540	148.0	4	0	3	43,060	153.4	4	0	3			
	WG		35,557	126.7	4	3	4	37,142	132.3	4	3	4	38,501	137.2	4	3	4			
	WR		37,365	133.1	4	0	4	39,031	139.0	4	0	4	40,459	144.1	4	0	4			
P29	AG	328	44,949	137.2	5	3	4	46,953	143.4	5	3	4	48,670	148.6	5	3	4	0.96	0.95	0.93
	AR		47,778	145.9	5	0	4	49,909	152.4	5	0	4	51,735	158.0	5	0	4			
	FG		39,185	119.6	4	3	5	40,932	125.0	4	3	5	42,429	129.6	4	3	5			
	FT		41,671	127.2	4	0	5	43,529	132.9	4	0	5	45,122	137.8	4	0	5			
	MG		42,568	130.0	4	3	4	44,466	135.8	4	3	4	46,092	140.7	4	3	4			
	MR		45,091	137.7	4	0	4	47,101	143.8	4	0	4	48,825	149.1	4	0	4			
	NG		42,864	130.9	4	3	3	44,775	136.7	4	3	4	46,413	141.7	4	3	4			
	NR		45,004	137.4	4	0	4	47,011	143.5	4	0	4	48,731	148.8	4	0	4			
	WG		40,240	122.9	4	3	4	42,034	128.3	4	3	4	43,572	133.0	4	3	5			
	WR		42,286	129.1	4	0	4	44,171	134.9	4	0	4	45,787	139.8	4	0	4			
P30	AG	368	49,944	135.9	5	3	4	52,171	141.9	5	3	4	54,080	147.1	5	3	4	0.93	0.91	0.88
	AR		53,089	144.4	5	0	4	55,456	150.8	5	0	4	57,485	156.4	5	0	4			
	FG		43,540	118.4	4	3	5	45,481	123.7	4	3	5	47,145	128.2	4	3	5			
	FT		46,303	126.0	4	0	5	48,367	131.6	4	0	5	50,137	136.4	4	0	5			
	MG		47,299	128.7	4	3	4	49,408	134.4	4	3	4	51,215	139.3	4	3	4			
	MR		50,103	136.3	4	0	4	52,336	142.4	4	0	5	54,251	147.6	4	0	5			
	NG		47,628	129.6	4	3	4	49,751	135.3	4	3	4	51,571	140.3	4	3	4			
	NR		50,006	136.0	4	0	4	52,236	142.1	4	0	4	54,147	147.3	4	0	4			
	WG		44,712	121.6	4	3	5	46,706	127.0	4	3	5	48,415	131.7	4	3	5			
	WR		46,986	127.8	4	0	4	49,081	133.5	4	0	5	50,876	138.4	4	0	5			

PERFORMANCE DATA – US Option - Uplight Skirt

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P11	AG	60	8,283	137.1	3	0	1	8,652	143.2	3	0	1	8,969	148.4	3	0	1	0.96	0.95	0.94
	AR		9,047	149.7	3	0	1	9,450	156.4	3	0	1	9,796	162.1	3	0	1			
	FG		7,833	129.6	2	0	2	8,183	135.4	2	0	2	8,482	140.4	2	0	2			
	FT		8,246	136.5	2	0	2	8,613	142.5	2	0	2	8,928	147.7	2	0	2			
	MG		8,239	136.3	2	0	1	8,606	142.4	2	0	1	8,921	147.6	2	0	1			
	MR		8,733	144.5	2	0	1	9,123	151.0	2	0	2	9,457	156.5	2	0	2			
	NG		8,424	139.4	2	0	1	8,799	145.6	2	0	1	9,121	150.9	2	0	1			
	NR		9,013	149.1	2	0	1	9,415	155.8	2	0	1	9,759	161.5	2	0	1			
	WG		7,881	130.4	2	0	1	8,232	136.2	2	0	1	8,533	141.2	2	0	2			
	WR		8,261	136.7	2	0	1	8,629	142.8	2	0	2	8,945	148.0	2	0	2			
P12	AG	74	9,853	132.7	3	0	1	10,293	138.6	3	0	1	10,669	143.7	3	0	1	0.96	0.95	0.94
	AR		10,762	144.9	3	0	2	11,242	151.4	3	0	2	11,653	156.9	3	0	2			
	FG		9,319	125.5	2	0	2	9,734	131.1	2	0	2	10,090	135.9	2	0	2			
	FT		9,809	132.1	2	0	2	10,246	138.0	2	0	2	10,621	143.0	2	0	2			
	MG		9,801	132.0	2	0	2	10,237	137.9	2	0	2	10,612	142.9	2	0	2			
	MR		10,389	139.9	2	0	2	10,852	146.1	2	0	2	11,249	151.5	2	0	2			
	NG		10,021	134.9	2	0	1	10,468	141.0	3	0	1	10,851	146.1	3	0	1			
	NR		10,722	144.4	2	0	1	11,200	150.8	3	0	1	11,609	156.3	3	0	1			
	WG		9,375	126.2	2	0	2	9,793	131.9	2	0	2	10,151	136.7	2	0	2			
	WR		9,827	132.3	2	0	2	10,266	138.2	2	0	2	10,641	143.3	2	0	2			
P13	AG	82	11,310	137.4	3	0	1	11,815	143.5	3	0	2	12,247	148.8	3	0	2	0.96	0.95	0.94
	AR		12,353	150.0	3	0	2	12,904	156.7	3	0	2	13,376	162.5	3	0	2			
	FG		10,697	129.9	2	0	2	11,173	135.7	2	0	2	11,582	140.7	2	0	2			
	FT		11,259	136.8	2	0	2	11,761	142.9	2	0	2	12,192	148.1	2	0	2			
	MG		11,250	136.6	2	0	2	11,751	142.7	2	0	2	12,181	148.0	2	0	2			
	MR		11,925	144.8	2	0	2	12,457	151.3	2	0	2	12,913	156.8	2	0	2			
	NG		11,503	139.7	3	0	1	12,015	145.9	3	0	1	12,455	151.3	3	0	1			
	NR		12,307	149.5	3	0	2	12,856	156.2	3	0	2	13,326	161.9	3	0	2			
	WG		10,761	130.7	2	0	2	11,241	136.5	3	0	2	11,652	141.5	3	0	2			
	WR		11,280	137.0	2	0	2	11,783	143.1	2	0	2	12,215	148.4	2	0	2			
P14	AG	105	12,938	123.6	3	0	2	13,515	129.1	3	0	2	14,009	133.8	3	0	2	0.96	0.95	0.94
	AR		14,131	135.0	4	0	2	14,761	141.0	4	0	2	15,301	146.2	4	0	2			
	FG		12,236	116.9	2	0	2	12,781	122.1	2	0	2	13,249	126.6	2	0	2			
	FT		12,880	123.0	2	0	2	13,454	128.5	2	0	2	13,946	133.2	2	0	2			
	MG		12,869	122.9	2	0	2	13,442	128.4	2	0	2	13,934	133.1	2	0	2			
	MR		13,642	130.3	2	0	2	14,250	136.1	2	0	2	14,771	141.1	2	0	2			
	NG		13,158	125.7	3	0	1	13,745	131.3	3	0	2	14,247	136.1	3	0	2			
	NR		14,078	134.5	3	0	2	14,706	140.5	3	0	2	15,244	145.6	3	0	2			
	WG		12,310	117.6	3	0	2	12,859	122.8	3	0	2	13,329	127.3	3	0	2			
	WR		12,904	123.3	3	0	2	13,479	128.8	3	0	2	13,972	133.5	3	0	2			

PERFORMANCE DATA – US Option - Uplight Skirt (continued)

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P15	AG	121	16,021	131.9	3	0	2	16,735	137.8	4	0	2	17,348	142.9	4	0	2	0.96	0.95	0.94
	AR		17,499	144.1	4	0	2	18,279	150.5	4	0	2	18,947	156.0	4	0	2			
	FG		15,152	124.8	3	0	2	15,827	130.3	3	0	2	16,406	135.1	3	0	2			
	FT		15,949	131.3	3	0	2	16,660	137.2	3	0	2	17,270	142.2	3	0	3			
	MG		15,935	131.2	3	0	2	16,646	137.1	3	0	2	17,255	142.1	3	0	2			
	MR		16,892	139.1	2	0	2	17,646	145.3	3	0	2	18,291	150.6	3	0	2			
	NG		16,293	134.2	3	0	2	17,020	140.2	3	0	2	17,643	145.3	3	0	2			
	NR		17,433	143.6	3	0	2	18,210	150.0	3	0	2	18,876	155.4	3	0	2			
	WG		15,243	125.5	3	0	2	15,923	131.1	3	0	2	16,505	135.9	3	0	2			
	WR		15,979	131.6	3	0	2	16,691	137.4	3	0	2	17,302	142.5	3	0	2			
P16	AG	147	18,820	128.0	4	0	2	19,659	133.7	4	0	2	20,379	138.6	4	0	2	0.96	0.95	0.94
	AR		20,556	139.8	4	0	2	21,472	146.1	4	0	2	22,258	151.4	4	0	2			
	FG		17,799	121.1	3	0	2	18,593	126.5	3	0	2	19,273	131.1	3	0	2			
	FT		18,736	127.5	3	0	3	19,571	133.1	3	0	3	20,287	138.0	3	0	3			
	MG		18,719	127.3	3	0	2	19,554	133.0	3	0	3	20,269	137.9	3	0	3			
	MR		19,844	135.0	3	0	3	20,729	141.0	3	0	3	21,487	146.2	3	0	3			
	NG		19,140	130.2	3	0	2	19,994	136.0	3	0	2	20,725	141.0	3	0	2			
	NR		20,479	139.3	3	0	2	21,392	145.5	3	0	2	22,175	150.9	3	0	2			
	WG		17,907	121.8	3	0	3	18,705	127.2	3	0	3	19,389	131.9	3	0	3			
	WR		18,771	127.7	3	0	3	19,608	133.4	3	0	3	20,325	138.3	3	0	3			
P17	AG	178	22,078	123.9	4	0	2	23,062	129.4	4	0	2	23,906	134.2	4	0	2	0.93	0.91	0.89
	AR		24,114	135.3	4	0	2	25,189	141.4	4	0	2	26,110	146.5	4	0	2			
	FG		20,880	117.2	3	0	3	21,810	122.4	3	0	3	22,608	126.9	3	0	3			
	FT		21,978	123.3	3	0	3	22,958	128.8	3	0	3	23,798	133.5	3	0	3			
	MG		21,959	123.2	3	0	3	22,938	128.7	3	0	3	23,777	133.4	3	0	3			
	MR		23,278	130.6	3	0	3	24,316	136.5	3	0	3	25,206	141.4	3	0	3			
	NG		22,453	126.0	3	0	2	23,454	131.6	3	0	2	24,312	136.4	3	0	2			
	NR		24,023	134.8	3	0	2	25,094	140.8	3	0	2	26,012	146.0	3	0	2			
	WG		21,006	117.9	3	0	3	21,942	123.1	3	0	3	22,745	127.6	3	0	3			
	WR		22,019	123.6	3	0	3	23,001	129.1	3	0	3	23,843	133.8	3	0	3			

PERFORMANCE DATA – US Option - Uplight Skirt (continued)

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P21	AG	118	17,018	144.1	4	0	2	17,776	150.5	4	0	2	18,427	156.0	4	0	2	0.96	0.96	0.95
	AR		18,587	157.4	4	0	2	19,416	164.4	4	0	2	20,126	170.4	4	0	2			
	FG		16,094	136.3	3	0	2	16,812	142.4	3	0	2	17,427	147.6	3	0	2			
	FT		16,941	143.4	3	0	2	17,696	149.8	3	0	3	18,344	155.3	3	0	3			
	MG		16,926	143.3	3	0	2	17,681	149.7	3	0	2	18,328	155.2	3	0	2			
	MR		17,943	151.9	3	0	2	18,743	158.7	3	0	2	19,429	164.5	3	0	3			
	NG		17,307	146.5	3	0	2	18,078	153.1	3	0	2	18,740	158.7	3	0	2			
	NR		18,517	156.8	3	0	2	19,343	163.8	3	0	2	20,051	169.8	3	0	2			
	WG		16,191	137.1	3	0	2	16,913	143.2	3	0	2	17,532	148.5	3	0	3			
	WR		16,973	143.7	3	0	2	17,729	150.1	3	0	2	18,378	155.6	3	0	3			
P22	AG	139	19,703	141.4	4	0	2	20,582	147.7	4	0	2	21,335	153.1	4	0	2	0.96	0.96	0.95
	AR		21,521	154.5	4	0	2	22,480	161.4	4	0	2	23,302	167.3	4	0	2			
	FG		18,634	133.7	3	0	2	19,465	139.7	3	0	2	20,177	144.8	3	0	3			
	FT		19,615	140.8	3	0	3	20,489	147.1	3	0	3	21,239	152.4	3	0	3			
	MG		19,598	140.7	3	0	3	20,472	146.9	3	0	3	21,221	152.3	3	0	3			
	MR		20,775	149.1	3	0	3	21,701	155.8	3	0	3	22,495	161.5	3	0	3			
	NG		20,038	143.8	3	0	2	20,932	150.2	3	0	2	21,698	155.7	3	0	2			
	NR		21,440	153.9	3	0	2	22,396	160.8	3	0	2	23,215	166.6	3	0	2			
	WG		18,747	134.6	3	0	3	19,583	140.6	3	0	3	20,299	145.7	3	0	3			
	WR		19,651	141.0	3	0	3	20,528	147.3	3	0	3	21,279	152.7	3	0	3			
P23	AG	159	21,996	138.5	4	0	2	22,976	144.7	4	0	2	23,817	150.0	4	0	2	0.96	0.96	0.95
	AR		24,024	151.3	4	0	2	25,095	158.0	4	0	2	26,013	163.8	4	0	2			
	FG		20,802	131.0	3	0	3	21,730	136.8	3	0	3	22,525	141.8	3	0	3			
	FT		21,897	137.9	3	0	3	22,873	144.0	3	0	3	23,710	149.3	3	0	3			
	MG		21,878	137.8	3	0	3	22,853	143.9	3	0	3	23,689	149.2	3	0	3			
	MR		23,192	146.0	3	0	3	24,226	152.6	3	0	3	25,112	158.1	3	0	3			
	NG		22,370	140.9	3	0	2	23,367	147.1	3	0	2	24,222	152.5	3	0	2			
	NR		23,934	150.7	3	0	2	25,001	157.4	3	0	2	25,916	163.2	3	0	2			
	WG		20,928	131.8	3	0	3	21,861	137.7	3	0	3	22,661	142.7	3	0	3			
	WR		21,938	138.1	3	0	3	22,916	144.3	3	0	3	23,754	149.6	3	0	3			
P24	AG	181	24,556	135.8	4	0	2	25,651	141.9	4	0	2	26,589	147.1	4	0	2	0.96	0.96	0.95
	AR		26,820	148.3	4	0	2	28,016	155.0	5	0	3	29,041	160.6	5	0	3			
	FG		23,223	128.4	3	0	3	24,259	134.2	3	0	3	25,146	139.1	3	0	3			
	FT		24,445	135.2	3	0	3	25,535	141.2	3	0	4	26,470	146.4	3	0	4			
	MG		24,424	135.1	3	0	3	25,513	141.1	3	0	3	26,447	146.3	3	0	3			
	MR		25,891	143.2	3	0	3	27,046	149.6	3	0	3	28,035	155.1	3	0	3			
	NG		24,973	138.1	3	0	2	26,087	144.3	4	0	2	27,041	149.6	4	0	2			
	NR		26,720	147.8	3	0	2	27,911	154.4	3	0	2	28,932	160.0	4	0	2			
	WG		23,364	129.2	3	0	3	24,405	135.0	3	0	3	25,298	139.9	3	0	3			
	WR		24,491	135.5	3	0	3	25,583	141.5	3	0	3	26,519	146.7	3	0	3			
P25	AG	208	27,063	130.3	4	0	2	28,270	136.1	4	0	2	29,304	141.1	5	0	2	0.96	0.96	0.95
	AR		29,559	142.3	5	0	3	30,877	148.7	5	0	3	32,006	154.1	5	0	3			
	FG		25,594	123.2	3	0	3	26,735	128.7	3	0	3	27,713	133.4	3	0	3			
	FT		26,941	129.7	3	0	4	28,142	135.5	3	0	4	29,172	140.5	3	0	4			
	MG		26,918	129.6	3	0	3	28,118	135.4	3	0	3	29,147	140.3	3	0	3			
	MR		28,535	137.4	3	0	3	29,807	143.5	3	0	3	30,897	148.8	3	0	3			
	NG		27,523	132.5	4	0	2	28,750	138.4	4	0	2	29,802	143.5	4	0	2			
	NR		29,448	141.8	4	0	2	30,761	148.1	4	0	2	31,886	153.5	4	0	2			
	WG		25,749	124.0	3	0	3	26,897	129.5	3	0	3	27,881	134.2	3	0	3			
	WR		26,991	130.0	3	0	3	28,195	135.7	3	0	3	29,226	140.7	3	0	3			

PERFORMANCE DATA – US Option - Uplight Skirt (continued)

Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI) 50K (5000K CCT, 70 CRI)					LLD @ 25°C		
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	50k Hours	75k Hours	100k Hours
P26	AG	233	29,715	127.3	5	0	2	31,040	133.0	5	0	2	32,176	137.8	5	0	2	0.96	0.96	0.95
	AR		32,456	139.0	5	0	3	33,903	145.2	5	0	3	35,143	150.5	5	0	3			
	FG		28,103	120.4	3	0	3	29,356	125.7	3	0	3	30,430	130.3	4	0	4			
	FT		29,581	126.7	3	0	4	30,900	132.4	3	0	4	32,031	137.2	4	0	4			
	MG		29,556	126.6	3	0	3	30,874	132.2	3	0	3	32,003	137.1	3	0	3			
	MR		31,331	134.2	3	0	3	32,728	140.2	3	0	3	33,925	145.3	3	0	3			
	NG		30,220	129.4	4	0	2	31,568	135.2	4	0	2	32,723	140.2	4	0	2			
	NR		32,334	138.5	4	0	2	33,775	144.7	4	0	3	35,011	150.0	4	0	3			
	WG		28,272	121.1	4	0	3	29,533	126.5	4	0	3	30,613	131.1	4	0	3			
	WR		29,637	126.9	3	0	3	30,958	132.6	3	0	3	32,091	137.5	4	0	3			
P27	AG	250	32,101	128.6	5	0	2	33,533	134.3	5	0	3	34,760	139.2	5	0	3	0.96	0.96	0.95
	AR		35,062	140.4	5	0	3	36,625	146.7	5	0	3	37,965	152.0	5	0	3			
	FG		30,359	121.6	4	0	3	31,713	127.0	4	0	4	32,873	131.6	4	0	4			
	FT		31,957	128.0	4	0	4	33,382	133.7	4	0	4	34,603	138.6	4	0	4			
	MG		31,929	127.9	3	0	3	33,353	133.6	4	0	3	34,573	138.5	4	0	3			
	MR		33,847	135.5	3	0	3	35,356	141.6	3	0	3	36,650	146.8	4	0	3			
	NG		32,647	130.7	4	0	2	34,103	136.6	4	0	2	35,350	141.6	4	0	3			
	NR		34,930	139.9	4	0	3	36,488	146.1	4	0	3	37,823	151.5	4	0	3			
	WG		30,543	122.3	4	0	3	31,905	127.8	4	0	3	33,072	132.4	4	0	3			
	WR		32,017	128.2	4	0	3	33,444	133.9	4	0	3	34,668	138.8	4	0	3			
P28	AG	281	34,760	123.8	5	0	3	36,310	129.4	5	0	3	37,638	134.1	5	0	3	0.96	0.95	0.93
	AR		37,965	135.3	5	0	3	39,658	141.3	5	0	3	41,109	146.5	5	0	3			
	FG		32,873	117.1	4	0	4	34,339	122.3	4	0	4	35,595	126.8	4	0	4			
	FT		34,603	123.3	4	0	4	36,146	128.8	4	0	4	37,469	133.5	4	0	4			
	MG		34,573	123.2	4	0	3	36,115	128.7	4	0	3	37,436	133.4	4	0	3			
	MR		36,650	130.6	4	0	3	38,284	136.4	4	0	4	39,685	141.4	4	0	4			
	NG		35,351	125.9	4	0	3	36,927	131.6	4	0	3	38,278	136.4	4	0	3			
	NR		37,823	134.7	4	0	3	39,509	140.8	4	0	3	40,955	145.9	4	0	3			
	WG		33,072	117.8	4	0	3	34,547	123.1	4	0	3	35,811	127.6	4	0	3			
	WR		34,668	123.5	4	0	3	36,214	129.0	4	0	4	37,539	133.7	4	0	4			
P29	AG	328	39,338	120.1	5	0	3	41,092	125.5	5	0	3	42,595	130.1	5	0	3	0.96	0.95	0.93
	AR		42,966	131.2	5	0	4	44,881	137.0	5	0	4	46,523	142.1	5	0	4			
	FG		37,203	113.6	4	0	4	38,862	118.7	4	0	4	40,283	123.0	4	0	4			
	FT		39,161	119.6	4	0	4	40,907	124.9	4	0	5	42,403	129.5	4	0	5			
	MG		39,127	119.5	4	0	3	40,871	124.8	4	0	3	42,367	129.4	4	0	4			
	MR		41,477	126.6	4	0	4	43,326	132.3	4	0	4	44,912	137.1	4	0	4			
	NG		40,006	122.2	4	0	3	41,790	127.6	4	0	3	43,319	132.3	4	0	3			
	NR		42,804	130.7	4	0	3	44,713	136.5	4	0	3	46,349	141.5	4	0	3			
	WG		37,428	114.3	4	0	3	39,096	119.4	4	0	3	40,527	123.7	4	0	3			
	WR		39,234	119.8	4	0	4	40,983	125.1	4	0	4	42,483	129.7	4	0	4			
P30	AG	368	43,710	118.9	5	0	3	45,659	124.2	5	0	3	47,329	128.7	5	0	3	0.93	0.91	0.88
	AR		47,741	129.9	5	0	4	49,869	135.6	5	0	4	51,694	140.6	5	0	4			
	FG		41,338	112.4	4	0	4	43,181	117.5	4	0	4	44,761	121.8	4	0	4			
	FT		43,513	118.4	4	0	5	45,453	123.6	4	0	5	47,116	128.2	4	0	5			
	MG		43,475	118.3	4	0	4	45,414	123.5	4	0	4	47,075	128.0	4	0	4			
	MR		46,087	125.4	4	0	4	48,142	131.0	4	0	4	49,903	135.7	4	0	4			
	NG		44,453	120.9	4	0	3	46,435	126.3	4	0	3	48,134	130.9	4	0	3			
	NR		47,562	129.4	4	0	3	49,682	135.1	4	0	3	51,500	140.1	4	0	4			
	WG		41,588	113.1	4	0	4	43,442	118.2	4	0	4	45,031	122.5	4	0	4			
	WR		43,594	118.6	4	0	4	45,538	123.9	4	0	4	47,204	128.4	4	0	4			

Catalog Number	
Notes	Type

WallConnect LED



Description

Perimeter, security and roadway underpass lighting requires excellent control and uniformity while minimizing light trespass and glare. The WCNG/WCNP WallConnect LED luminaires excel at this, requiring fewer luminaires to achieve required light levels in infrastructure, industrial and municipal applications. With energy cost reductions up to 77% and expected service life of over 20 years, WallConnect LED provides the latest lighting technology from the company that introduced the very first Wallpack to the market.

Optics

- The WCNG uses a borosilicate glass refractor lens and the WCNP uses a protective polycarbonate lens that covers the light engine's precision-molded proprietary silicone lenses.
- Type 3 Medium
- Type 4 Medium
- Type 4 Underpass

Mechanical

- The housing is constructed of die-cast aluminum and is fully gasketed for ease of maintenance
- Housing is completely sealed against moisture and environmental contaminants, IP66
- Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering.
- A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

Electrical

- Light engine(s) consist of 10-30 high-efficacy LEDs mounted to a metal-core circuit board and integral aluminum heat sink to maximize heat dissipation and promote long life
- The standard 0-10V dimmable electronic driver and optional XVOLT and DALI drivers have a power factor of >90%, THD <20%
- Zetashield driver (XVOLT option) is available for particularly challenging dirty power environments
- DALI dimmable driver supporting D4i is available as an option. Consult factory for custom programming.
- Adjustable output module (AO option) provides selectable lumens output control.
- Traditional button and twist lock photo controls are available as well as embedded dusk-to-dawn (DDC) and Local Connect (ALCB, ALCF, ALCC) and motion sensing controls (RSBOR).
- SPD: 20kV/10kA standard
- CCT: 2700K, 3000K, 4000K, 5000K
- CRI: 70CRI
- Integrated UL924 emergency backup option is available.

Installation

- Top, bottom, left and right side 1/2" threaded wiring access
- Back access through removable 1/2" knockout
- Feed-thru wiring can be achieved by using a conduit tee

Certification and Standards

- UL listed for wet locations. Rated for -40°C to 50°C ambient, refer to page 4 for details
- LM-79 compliant
- The projected LED Lumen Maintenance shall be based only on IES LM-80-08 and TM-21
- Luminaire designed and tested to comply with ANSI C136:31 for 100,000 cycles at 3.0G acceleration for bridges and overpasses
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check with the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Government Procurement

BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.

BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/buy-american for additional information.

Warranty

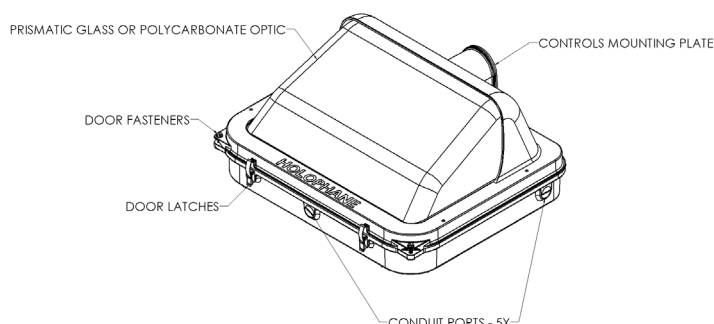
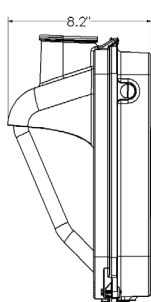
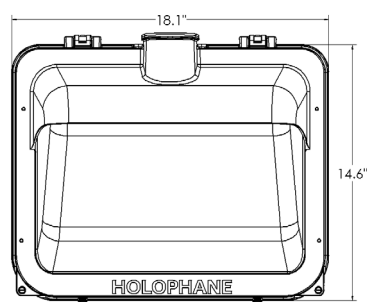
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.



DIMENSIONAL DATA



WCNG Weight = 28.5 lbs
WCNP Weight = 22.5 lbs

ORDERING INFORMATION

Example: WCNG P4 30K T3M MVOLT ZT 20KV BKSDP SCRW PR7 PCLL ELCW

Series		Performance Package		Color Temperature		Distribution		Voltage		Driver	
WCNG	WallConnect LED Wallpack glass refractor	P1	16W, 2,100 nominal lumens at 4K CCT	27K	2,700K CCT	T3M	TYPE III medium	MVOLT	Multivolt (120-277)	ZT	0-10V dimmable
				30K	3,000K CCT	T4M	TYPE IV medium	120	120VAC	D4I	DALI D4i driver for 120-277VAC applications
WCNP	WallConnect LED Wallpack polycarbonate refractor	P2 ⁶	35W, 4,100 nominal lumens at 4K CCT	40K	4,000K CCT	U4W	TYPE IV underpass	208	208VAC		
		P3 ⁶	51W, 6,200 nominal lumens at 4K CCT	50K	5,000K CCT			240	240VAC		
								277	277VAC		
		P4	72W, 8,500 nominal lumens at 4K CCT					347	347VAC		
								480	480VAC		
		P5	93W, 12,000 nominal lumens at 4K CCT					XVOLT277	Zetashield driver for 277VAC applications		
		P6	117W, 14,300 nominal lumens at 4K CCT					XVOLT347	Zetashield driver for 347VAC applications		
		P7	128W, 15,800 nominal lumens at 4K CCT					XVOLT480	Zetashield driver for 480VAC applications		
		P8	138W, 15,700 nominal lumens at 4K CCT								

Surge Protection		Finish Color		Door Closure		Top Receptacle		Fusing		Adjustable Output	
10KV	10kV/5kA fail on style MOV pack	BKSDP	Black super durable paint	SCRW	Standard screw closure	NTR	No top receptacle	SF ¹	Single fused	AO	Adjustable output module
20KV	20kV/10kA fail off style SPD	BZSDP	Bronze super durable paint	LTCH	Toolless steel latches	PR7	7-pin photocontrol receptacle	DF ²	Double fused		
		GYSDP	Grey super durable paint	TMPS	Tamper resistant enclosure fasteners	ZRT	Zhaga receptacle on top of fixture				
		WHSDP	White super durable paint								

Photo Control		Embedded Controls		Sensor		Emergency Battery		Terminal Block	
SH	Shorting cap for NEMA receptacle	ALCB	Local Connect Basic	RSBOR	External mount RSBOR nLight motion sensing control	ELSW ^{3,4,5}	Emergency battery backup (standard 0C)	TB	3-position Terminal Block (6-16 AWG)
PCLL	DTL DLL long life photo control	ALCC	Local Connect Custom			ELCW ^{3,4,5}	Emergency battery backup (cold eather -20C)		
DZP	DC Zhaga Photocontrol	ALCF	Local Connect Full						
		DDC	DC Connect photocontrol						
		UBC	Cell Connect						
		BSPC	Button Style photocontrol integral						

Nema Label		Factory installed guards		Point of Manufacture	
NL	Nema Label	WCNLVG	Vandal guard factory installed	BAA	Buy America(n) Act and/or Build America Buy America Qualified
		WCNLWG	Wire guard factory installed		

Accessories: (separately shipped).	
WCNVGU	Vandal guard
WCNLGU	Wire guard
DLL127F1.5JU	Multivolt DLL photocontrol
DLL3471.5CULJU	347V DLL photocontrol
DLL4801.5CULJU	480V DLL photocontrol
Controls Training:	
LCTRAIN	Local Connect Remote Training; 1 day training provided by Acuity Services Team

Notes

- 1. Single fusing (SF) option only valid with 120, 277, 347 voltages
- 2. Double fusing (DF) option only valid with 208, 240, 480 voltages
- 3. Emergency Battery (ELSW and ELCW) cannot be selected with XVOLT, 347 or 480 voltages
- 4. Emergency Battery (ELSW and ELCW) with P1, P2 or P3 cannot be selected with 20KV surge protection
- 5. Emergency Battery (ELSW and ELCW) with P4 or P5 cannot be selected with D4I
- 6. P2 and P3 performance packages with 347 or 480 voltages cannot be selected with D4I

D4i Driver Option Defaults			
Setting	Top Receptacle / Photocontrol	Default Value	Alternate Values
DALI Power Bus	NTR	ON	Off
	ALCB / ALCF / ALCC	ON	none
	DDC	ON	none
	PR7	OFF	On
	ZRT	ON	Off
	DZP	ON	Off
Dimming Type	Any	LINEAR	Logarithmic
24V AUX	Any	ON (Not Connected)	none
Scenes Data	Any	0 (blank)	01-255

*To program different settings, consult factory; RFD is required

OPTIONS MATRIX

WCNG / WCNP		Driver		Surge Protection		Embedded Controls						Top Receptacle			AO	Photocontrols			Motion Sensor	Emergency Battery	
		ZT	D4i	10KV	20KV	ALCB	ALCF	ALCC	DDC	UBC	BSPC	NTR	PR7	ZRT	AO	SH	PCLL	DZP	RSBOR	ELSW	ELCW
Driver	ZT		N	Y	Y	N	N	N	N	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
	D4i	N		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y
Surge Protection	10KV	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	20KV	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Embedded Controls	ALCB	N	Y	Y	Y		N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	Y
	ALCF	N	Y	Y	Y	N		N	N	N	N	Y	N	N	N	N	N	N	N	Y	Y
	ALCC	N	Y	Y	Y	N	N		N	N	N	Y	N	N	N	N	N	N	N	Y	Y
	DDC	N	Y	Y	Y	N	N	N		N	N	Y	N	N	N	N	N	N	N	Y	Y
	UBC	N	Y	Y	Y	N	N	N	N		N	Y	N	N	N	N	N	N	N	Y	Y
	BSPC	Y	Y	Y	Y	N	N	N	N	N		Y	N	N	Y	N	N	N	N	Y	Y
Top Receptacle	NTR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N	N	Y	N	N	N	Y	Y	Y
	PR7	Y	Y	Y	Y	N	N	N	N	N	N	N		N	Y	Y	Y	N	N	Y	Y
	ZRT	N	Y	Y	Y	N	N	N	N	N	N	N	N		N	N	N	Y	N	Y	Y
AO	AO	Y	N	Y	Y	N	N	N	N	N	Y	Y	Y	N		Y	Y	N	N	Y	Y
Photocontrols	SH	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	N	Y		N	N	N	Y	Y
	PCLL	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	N	Y	N		N	N	Y	Y
	DZP	N	Y	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	N		N	Y	Y
Motion Sensor	RSBOR	Y	N	Y	Y	N	N	N	N	N	N	Y	N	N	N	N	N	N		Y	Y
Emergency Battery	ELSW	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		N
	ELCW	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	

Performance Package / Options Matrix

Performance Package	Distribution			Driver		Emergency Battery		Voltage									
	T3M	T4M	U4W	ZT	D4I	ELSW	ELCW	MVOLT	120	208	240	277	347	480	XVOLT277	XVOLT347	XVOLT480
P1	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N
P2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
P3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
P4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
P5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
P6	Y	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
P7	Y	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
P8	Y	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

MATRIX KEY

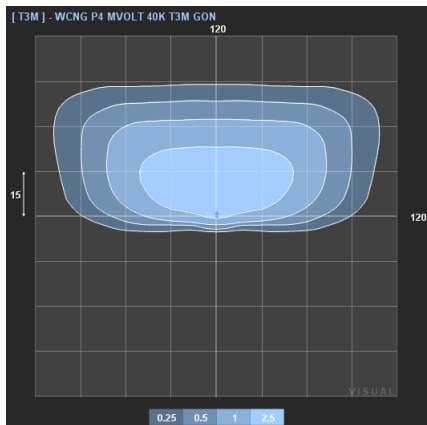
N = Combination Not available

Y = Valid Option Combination

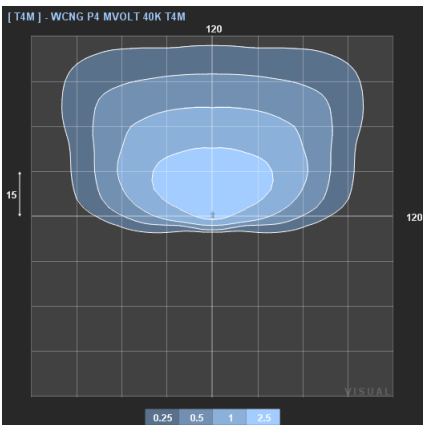
OPERATIONAL DATA

Series	Performance Package	Distribution Type	Wattage	2700K CCT		3000K CCT		4000K CCT		5000K CCT	
				Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
WCNG	P1	T3M	16	2,021	126	2,054	128	2,194	137	2,225	139
	P2		35	3,962	114	4,028	116	4,303	124	4,362	126
	P3		51	6,171	122	6,274	124	6,702	133	6,795	135
	P4		72	8,403	117	8,542	119	9,125	127	9,252	129
	P5		93	10,648	114	10,825	116	11,564	124	11,725	126
	P6		117	12,736	108	12,947	110	13,831	118	14,023	119
	P7		128	13,982	109	14,214	111	15,184	118	15,395	120
	P8		138	14,426	105	14,665	106	15,666	114	15,884	115
	P1	T4M	16	2,053	128	2,087	130	2,230	139	2,261	141
	P2		35	4,026	116	4,093	118	4,373	126	4,433	128
	P3		51	6,251	124	6,355	126	6,789	134	6,883	136
	P4		72	8,512	118	8,653	120	9,244	128	9,372	130
	P5		93	9,621	103	9,781	105	10,448	112	10,593	114
	P1	U4W	16	2,026	127	2,060	129	2,200	138	2,231	139
	P2		35	3,973	114	4,039	116	4,314	124	4,374	126
	P3		51	5,835	116	5,932	117	6,337	125	6,425	127
	P4		72	7,945	110	8,077	112	8,628	120	8,748	122
	P5		93	9,432	101	9,588	103	10,243	110	10,385	112
WCNP	P1	T3M	16	1,864	117	1,895	118	2,024	127	2,052	128
	P2		35	3,655	105	3,715	107	3,969	114	4,024	116
	P3		51	5,693	113	5,787	115	6,182	122	6,268	124
	P4		72	7,751	108	7,880	109	8,418	117	8,535	119
	P5		93	9,823	106	9,986	107	10,668	115	10,816	116
	P6		117	11,748	100	11,943	102	12,759	109	12,936	110
	P7		128	13,623	106	13,849	108	14,794	115	14,999	117
	P8		138	13,787	100	14,016	102	14,973	109	15,181	110
	P1	T4M	16	1,885	118	1,916	120	2,047	128	2,075	130
	P2		35	3,696	107	3,757	108	4,014	116	4,069	117
	P3		51	5,656	112	5,750	114	6,142	122	6,228	123
	P4		72	7,701	107	7,829	109	8,363	116	8,480	118
	P5		93	9,032	97	9,182	99	9,809	105	9,945	107
	P1	U4W	16	1,838	115	1,869	117	1,996	125	2,024	127
	P2		35	3,604	104	3,664	106	3,914	113	3,969	114
	P3		51	5,507	109	5,598	111	5,980	118	6,063	120
	P4		72	7,498	104	7,623	106	8,143	113	8,256	115
	P5		93	8,864	95	9,012	97	9,627	103	9,760	105

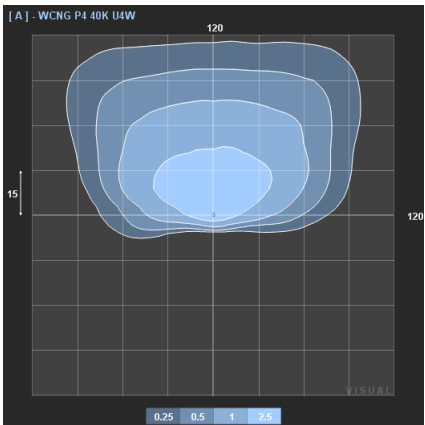
PHOTOMETRIC DISTRIBUTIONS



T3M



T4M



U4W

OPERATIONAL DATA

Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

WCN Lumen Maintenance				
Operating Hours	0	25,000	50,000	100,000
P1	1.000	0.956	0.915	0.839
P2				
P3				
P4	1.000	0.956	0.904	0.818
P5				
P6				
P7				
P8	1.000	0.930	0.866	0.750

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

WCN Electrical Load							
Performance Package	Watts	Current (A)					
		120 Vac	208 Vac	240 Vac	277 Vac	347 Vac	480 Vac
P1	16	0.133	0.077	0.067	0.058	0.046	0.033
P2	35	0.289	0.167	0.145	0.125	0.100	0.072
P3	51	0.421	0.243	0.211	0.182	0.146	0.105
P4	72	0.600	0.346	0.300	0.260	0.207	0.150
P5	93	0.776	0.448	0.388	0.336	0.268	0.194
P6	117	0.978	0.564	0.489	0.424	0.338	0.245
P7	128	1.068	0.616	0.534	0.463	0.369	0.267
P8	138	1.150	0.663	0.575	0.498	0.398	0.288

Lumen Ambient Temperature (LAT) Multipliers

Use this factors to determine relative lumen output for average ambient temperatures from 0-50° C (32-122°F)

WCN Series		
Ambient		Lumen Temperature Factor
0° C	32° F	1.030
10° C	50° F	1.019
20° C	68° F	1.007
25° C	77° F	1.000
30° C	86° F	0.993
40° C	104° F	0.977
50° C	122° F	0.960

Ambient Temperature Ratings

Without Battery Backup			With ELSW Option		With ELCW Option	
Performance Package	Min Temperature	Max Temperature	Min Temperature	Max Temperature	Min Temperature	Max Temperature
P1	-40°C	50°C	0°C	40°C	-20°C	40°C
P2	-40°C	50°C	0°C	40°C	-20°C	40°C
P3	-40°C	50°C	0°C	40°C	-20°C	40°C
P4	-40°C	50°C	0°C	40°C	-20°C	40°C
P5	-40°C	40°C	0°C	40°C	-20°C	40°C
P6	-40°C	40°C	N/A	N/A	N/A	N/A
P7	-40°C	35°C	N/A	N/A	N/A	N/A
P8	-40°C	35°C	N/A	N/A	N/A	N/A

WCN FAO																
Performance Package	P1		P2		P3		P4		P5		P6		P7		P8	
	A0 Position	% Lumen Output	% Wattage	% Lumen Output	% Wattage	% Lumen Output	% Wattage	% Lumen Output	% Wattage	% Lumen Output	% Wattage	% Lumen Output	% Wattage	% Lumen Output	% Wattage	% Lumen Output
1		22%	21%	22%	17%	22%	19%	22%	20%	22%	20%	22%	20%	23%	20%	23%
2		34%	35%	32%	27%	32%	29%	33%	31%	32%	31%	33%	31%	33%	31%	34%
3		46%	46%	46%	40%	46%	42%	47%	47%	47%	47%	47%	48%	47%	49%	47%
4		60%	59%	61%	55%	61%	57%	62%	58%	61%	58%	62%	58%	63%	64%	64%
5		70%	70%	71%	67%	71%	67%	72%	69%	72%	69%	73%	69%	73%	77%	74%
6		82%	80%	82%	79%	82%	80%	83%	81%	83%	81%	83%	81%	84%	86%	85%
7		93%	92%	93%	92%	93%	92%	93%	92%	93%	92%	94%	92%	94%	95%	94%
8		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%