Shovel & Dragline Lighting

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Shovel Lighting
P&H Shovel Lighting – Fitout Guide

1 AC FLOOD

WORK AREA LIGHTING
AC FLOOD SERIES WORK LIGHT

Number of Fixtures : **Equipment Specific**
Location : **House, Boom**
Beam Pattern : **90° Wide Flood**
Part # : **LSG066090PH**

2 AC J-BOX

HOUSE & TRACK LIGHTING
J-BOX SERIES WORK LIGHT

Number of Fixtures : **Equipment Specific**
Location : **Interior House, Track**
Beam Pattern : **180° Ultra Wide Flood**
Part # : **LSG0225180PH**

3 JBOX 10W

EQUIPMENT & OVER-DOOR LIGHTING
AC-SERIES WORK LIGHT

Number of Fixtures : **Equipment Specific**
Location : **Over-Door**
Beam Pattern : **180° Ultra Wide Flood**
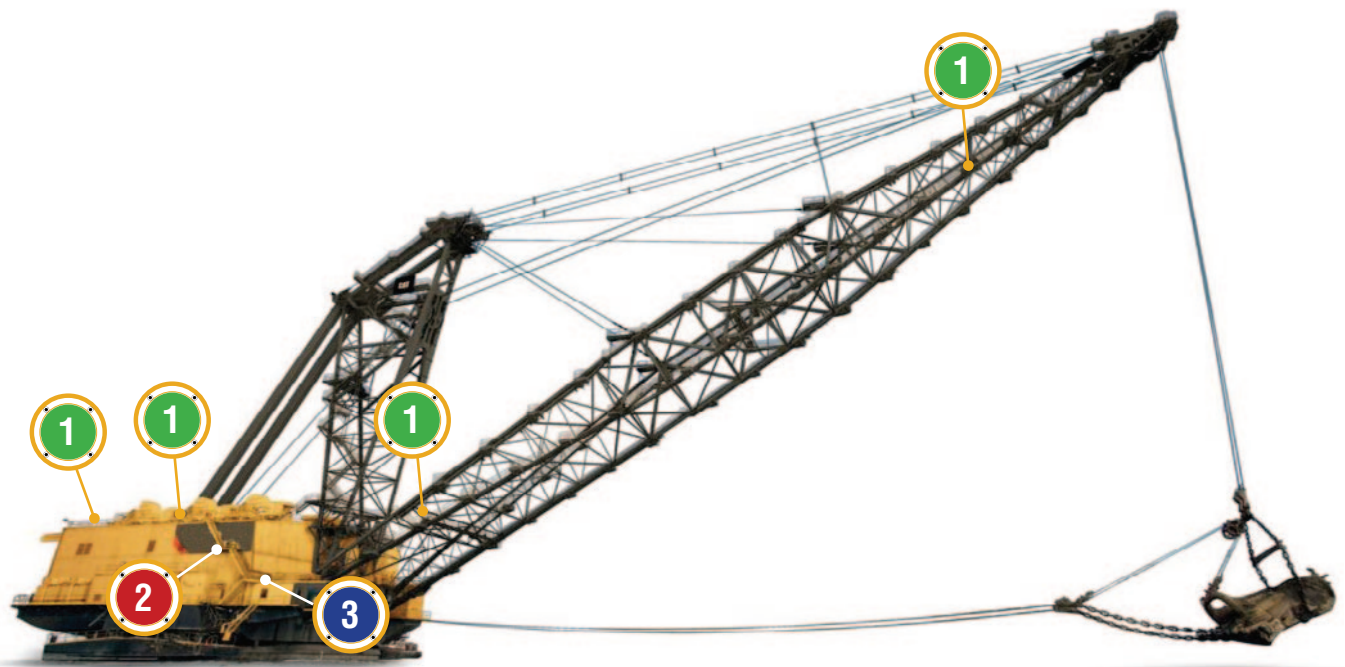Part # : **LSGSM40180PH**

Dragline Lighting

Dragline Lighting – Fitout Guide

1 AC FLOOD

WORK AREA LIGHTING
AC FLOOD SERIES WORK LIGHT
Number of Fixtures: **Equipment Specific**
Location: **Boom, House**
Beam Pattern: **90° Wide Flood**
Part#: **LSG066090PH**

2 AC J-BOX

HOUSE & WALKWAY LIGHTING
J-BOX SERIES WORK LIGHT
Number of Fixtures: **Equipment Specific**
Location: **Interior**
Beam Pattern: **180°**
Part#: **LSG0225180**

3 JBOX 10W

EQUIPMENT & OVER-DOOR LIGHTING
AC-SERIES WORK LIGHT
Number of Fixtures: **Equipment Specific**
Location: **Over-Door**
Beam Pattern: **180°**
Part#: **LSGM40180PH**

Shovel & Dragline
Shovel & Dragline LED Lighting

Application
Designed to directly bolt in, these OEM replacements will out perform the factory P&H lighting by over 80% on the effective work area. Simple quick connect wiring allows for one time wiring and no further electrical wiring to change the fixture. 3D analysis allows for site specific aiming with our patented ProTrac aiming system. Industry leading LED light output, size, weight and reliability for reduced unscheduled maintenance.

SPECIFICATIONS

Mechanical Information:

Fixture Weight:	37.05 lbs (16.81kg)
Shipping Weight:	40.05 lbs (18.17kg)
Mounting/ Entries: (See Accessories)	(1) 3/4" NPT – TOP (2) 3/4" NPT 90° – SIDES (2) 3/4" NPT 45°- SIDES

Electric Specifications:

|	
Operating Voltage:	90 - 305V AC 127 - 431V DC
Wattage:	280W
Operating Temp:	-40°C ~ 60°C
THD:	<20% (@load≥50% / 115VAC,230VAC) (@load≥75% / 277VAC)
Power Factor:	≥ 0.98/115VAC ≥ 0.95/230VAC ≥ 0.92/277VAC
Short Circuit:	Constant Current Limiting, Recovers Automatically After Fault Condition is Removed
Frequency:	47-63Hz
Vibration:	15.6Grms

Construction:

Housing:	Die-Cast 6061 Aluminum
Finish:	Gloss Grey
Lens:	Polycarbonate Lens

LED Light Engine / Driver

LED:	XP-LHD(CREE)
Amp Draw:	2.43A @ 115VAC 1.22A @ 230VAC 1.01A @ 277VAC
Lifespan:	50,000 hr

2D DRAWING:
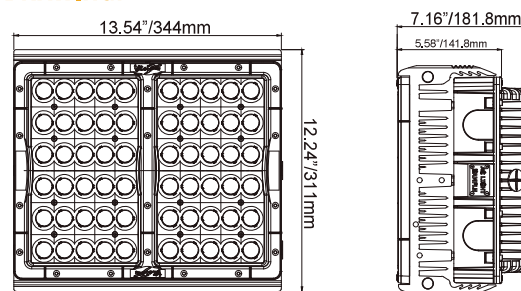
RATINGS:

EMC Emission:	Compliance to EN55015, EN55022 (CISPR22) Class B, EN61000-3-2 Class C (@Load ≥ 50%); EN61000-3-3
EMC Immunity:	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, Light Industry Level (surge immunity Line–Earth 4KV, Line–Line 2KV
Ingress Protection:	IP-68, IP69k

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Phone: 812.490.1525 • Fax: 812.490.1582 • 3299 Tower Drive • Newburgh, Indiana 47630 • email: sales@matrixteam.com • www.matrixteam.com

Shovel & Dragline
House & Track LED Lighting

Application
Interior house and track lighting direct OEM replacement. Simple quick connect wiring allows for one time wiring and no further electrical wiring to change the fixture. Provides 200+ degree lighting other LED fixtures cannot produce. Industry leading LED light output, size, weight and reliability for reduced unscheduled maintenance.

SPECIFICATIONS

Mechanical Information:

Fixture Weight:	8 lbs (3.8kg)
Shipping Weight:	10 lbs (4.5kg)
Mounting/ Entries: (See Accessories)	(6) 3/4" NPT – SIDES

Electric Specifications:

Operating Voltage:	90 - 305VAC 127 – 431VDC
Wattage:	50W
Operating Temp:	–40°C - 60°C
THD:	<20% (@load≥50% / 115VAC,230VAC) (@load≥75% / 277VAC)
Power Factor:	≥ 0.98/115VAC ≥ 0.95/230VAC ≥ 0.92/277VAC
Short Circuit:	Constant Current Limiting, Recovers Automatically After Fault Condition is Removed
Frequency:	47–63Hz
Vibration:	15.6Grms

Construction:

Housing:	Die-Cast 6061 Aluminum
Finish:	Gloss Grey
Lens:	Polycarbonate Lens

LED Light Engine / Driver

LED:	MHB-B(CREE)
Amp Draw:	0.43A @ 115VAC 0.22A @ 230VAC 0.18A @ 277VAC
Lifespan:	50,000 hr

UL LISTED c...US

2D DRAWING:

11.02"/280mm   3.33"/84.5mm   7.09"/180mm

RATINGS:

EMC Emission:	Compliance to EN55022,EN61000-3-2 Class A ,EN61000-3-3
EMC Immunity:	Compliance to EN55024, EN61000-4-2,3,4,5,6,8,11; light industry level(surge 2KV), criteria A
Ingress Protection:	IP-68, IP69k

Shovel & Dragline Lighting
Equipment & Over-Door LED Lighting

Application
Direct bolt on over door and access panel lighting. Provides 200+ degree lighting other LED fixtures cannot match. Reduce unscheduled maintenance with robust mounts and guaranteed light operation. Optional colored covers for indicator lighting available in Red, Amber, Blue and Green. Industry leading LED light output, size, weight and reliability for reduced unscheduled maintenance.

SPECIFICATIONS

Mechanical Information:

Fixture Weight:	2 lbs (0.9kg)
Shipping Weight:	4 lbs (1.8kg)
Mounting/ Entries: (See Accessories)	(4) 3/4" NPT – SIDES

Electric Specifications:

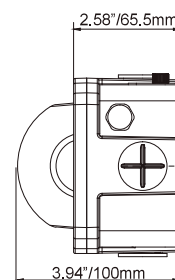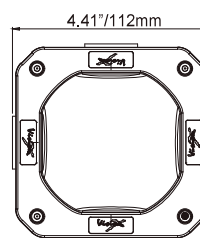|	
Operating Voltage:	90 – 264VAC 127 – 370VDC
Wattage:	10W
Operating Temp:	–40°C ~ 60°C
THD:	<20% (@load≥50% / 115VAC,230VAC) (@load≥75% / 277VAC)
Power Factor:	≥ 0.98/115VAC ≥ 0.95/230VAC ≥ 0.92/277VAC
Short Circuit:	Constant Current Limiting, Recovers Automatically After Fault Condition is Removed
Frequency:	47–63Hz
Vibration:	15.6Grms

Construction:

Housing:	Die–Cast 6061 Aluminum
Finish:	Gloss Grey
Lens:	Polycarbonate Lens

LED Light Engine / Driver

LED:	5630(LG)
Amp Draw:	0.09A @ 115VAC 0.04A @ 230VAC 0.04A @ 277VAC
Lifespan:	50,000 hr

2D DRAWING:

4.41"/112mm

2.58"/65.5mm

3.94"/100mm

RATINGS:

EMC Emission:	Compliance to EN55022,EN61000-3-2 Class A ,EN61000-3-3
EMC Immunity:	Compliance to EN55024, EN61000-4-2,3,4,5,6,8,11; light industry level(surge 2KV), criteria A
Ingress Protection:	IP-68, IP69k

Shovel & Dragline Lighting
Replacement Parts

BRACKETS:

**P&H SHOVEL LIGHT
HEAVY DUTY TRUNNION**
Part# : LAG60TRHD

HARDWARE:

**P&H SHOVEL LIGHT
3PIN FEMALE QUICK
CONNECT 2M**
Part# : LAYUPC2M

**JUNCTION BOX LIGHT
3PIN MALE 3/4" QUICK
CONNECT**
Part# : LASUQC34

NOTES:

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Shovel & Dragline Lighting
LED Panel Lights

Cube Shockwave Single LED Panel Light

The Cube LED Shockwave pairs Vision X Lighting's new Cube LED technology with the durability and versatility of the Shockwave series. The Shockwave is available in 1, 2, 3, and 4' lengths and in single and dual panel designs for various application needs. The single panel Shockwave provides a 180° beam spread for optimal flood lighting. Each 1' panel on the Shockwave dual is equivalent to a single 4' fluorescent or standard LED tube.

Features
- 180° Full-spread beam pattern
- Vibration: 15.6 Grms
- High efficacy cube LEDs
- Power supply included
- Direct Fluorescent Fixture Replacement
- Dim (L): 12" (304mm), 24" (610mm), 36" (914mm), 48" (1219mm)
- Reinforced Gasketed Bezel
- Clear bezel for wider dispersion
- CISPR 25
- 3 Years/ Extended warranty
- Weight : 3.1 lbs (1.4kg), 6.2 lbs (2.8kg), 9.2 lbs (4.2kg), 12.2 lbs (5.5kg)
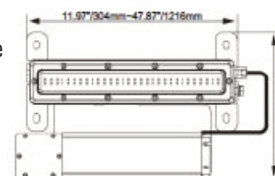
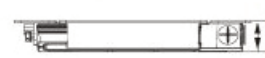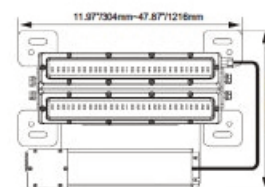| Part No.	Length	Beam	eLumens	rLumens	Voltage	Watts	Amps	IP Rating	Warranty
CSWS48PE	Single 12" (304mm)	180° Full-spread	4,340 Lu	5,424 Lu	110-277V AC	48W	0.44A	IP68/69K	3 Years/Ext
CSWS96PE	Single 24" (610mm)	180° Full-spread	8,670 Lu	10,848 Lu	110-277V AC	96W	0.87A	P68/69K	3 Years/Ext
CSWS144PE	Single 36" (914mm)	180° Full-spread	13,010 Lu	16,272 Lu	110-277V AC	144W	1.31A	P68/69K	3 Years/Ext
CSWS194PE	Single 48" (1219mm)	180° Full-spread	17,350 Lu	21,696 Lu	110-277V AC	192W	1.75A	P68/69K	3 Years/Ext

1CSWS192PE

Cube Shockwave Dual LED Panel Light

The Cube LED Shockwave pairs Vision X Lighting's new Cube LED technology with the durability and versatility of the Shockwave series. The Shockwave is available in 1, 2, 3, and 4' lengths and in single- and dual-panel designs for various application needs. The dual panel Shockwave provides a 210° beam spread for optimal flood lighting.

Features
- 210° Full-spread beam pattern
- Vibration: 15.6 Grms
- High efficacy cube LEDs
- Power supply included
- Direct Fluorescent Fixture Replacement
- Integrated Electronic Thermal Management (ETM)
- Reinforced gasketed bezel
- Clear bezel for wider dispersion
- CISPR 25
- 3 Years/ Extended warranty
- Weight : 5.8 lbs (2.63kg) /11.6 lbs (5.26kg)
- Dim (L): 12" (304mm) /24" (610mm)

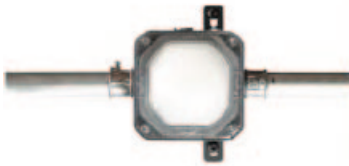| Part No.	Length	Beam	eLumens	rLumens	Voltage	Watts	Amps	IP Rating	Warranty
CSWD96PE	Dual 12" (304mm)	210° Full-spread	8,670 Lu	10,848 Lu	110-277V AC	96W	0.87A	IP68/69K	3 Years/Ext
CSWD192PE	Dual 24" (610mm)	210° Full-spread	17,350 Lu	21,696 Lu	110-277V AC	192W	1.75A	P68/69K	3 Years/Ext

Shovel & Dragline Lighting
Junction Box Light

10W Junction Box Light

10W J-Box

The High Bay LUC Series AC 10W Junction Box fixture by Vision X features advanced electronic technology like Pulse Width Modulation, Electronic Thermal Management, and a Redundant Circuit Design that allow the fixture to function even if half of the light should fail.

Technical Specifications

Type	40 x 5630 (LG) LEDs
Lumens	1,000 Lu
Beam Patterns	Ultra Flood 180° (UF)
Color Temperature	5000K
Mounting Options	Standard Surface mount feet
Voltage	90-277V AC (LV - Low Voltage)
Wattage	10W
Current Draw	0.09A @ 115V AC, 0.04A @ 230V AC, 0.04A @ 277V AC
Operating Temperature	-40°C - 40°C
Vibration	15.6 Grms
IP Rating	IP68, IP69K
Certifcations / Ratings	EMC Emission: EN55022,EN61000-3-2, Class A , EN61000-3-3.
	EMC Immunity: EN55024, EN61000-4-2,3,4,5,6,8,11; light industry level (surge 2KV), criteria A
Short Circuit	Constant current limiting, recovers automatically after fault condition is removed
Housing	Die-Cast 6061 Aluminum, Grey in color
Lens	Polycarbonate Lens
Weight	2 lbs (.kg) Dimensions (D, W, H)7.17 x 12.24 x7.09" (182 x 311 x 180mm)

Part No.	Beam Angle	eLumens	Voltage	Lens	Watts	Bracket
LSGM4080F	180° Ultra Flood	1,000 Lu	90-264V AC	Frosted	10W	Mounting Feet
LSGM40180A	180° Ultra Flood	1,000 Lu	90-264V AC	Amber	10W	Mounting Feet
LSGM40180B	180° Ultra Flood	1,000 Lu	90-264V AC	Blue	10W	Mounting Feet
LSGM40180R	180° Ultra Flood	1,000 Lu	90-264V AC	Red	10W	Mounting Feet
LSGM40180BG	180° Ultra Flood	1,000 Lu	90-264V AC	Green	10W	Mounting Feet

Why Update to LED Lighting?

Our goal is to provide your operation with the best lighting solution to support your safety and productivity goals.

More light isn't always the best solution. Selecting the right fixtures, the right setup (orientation/tilt/mounting position) and ensuring these solutions are simple and repeatable is key.

Matrix offers a free LED upgrade ROI analysis to support lighting upgrade decisions.
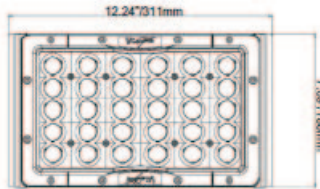
Shovel & Dragline Lighting

Dragline Perimeter Light

140W Shovel / Dragline Perimeter Light

The High Bay LUC Series AC 140W industrial area light by Vision X features advanced electronic technology like Pulse Width Modulation, Electronic Thermal Management, and a Redundant Circuit Design (30 LED) that allow the fixture to function even if half of the light should fail.

Technical Specifications

Type	30 x XP-LHD (CREE) LEDs
Lumens	18,000 Lu
Beam Patterns	Spot 10° (SD), Narrow 25° (ND), Medium 40° (MD), Flood 60° (FD), Wide Flood 90° (WD)
Color Temperature	5000K
Voltage	90-277V AC (LV - Low Voltage), 480V AC (HV - High Voltage)
Wattage	140W
Current Draw	1.22A @ 115V AC, 0.61A @ 230V AC, 0.51A @ 277V AC
Operating Temperature	-40°C - 40°C
Vibration	15.6Grms
IP Rating	IP68, IP69K
Certifcations / Ratings	EMC Emission: EN55015, EN55022 (CISPR22) Class B, EN61000-3-2, Class C (@ Load ≥ 50%); EN61000-3-3. EMC Immunity: EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, Light Industry Level surge immunity Line-Earth 4KV, Line-Line 2KV
Short Circuit	Constant current limiting, recovers automatically after fault condition is removed
Housing	Die-Cast 6061 Aluminum, Grey in color
Lens	Polycarbonate Lens
Weight	34 lbs (15.5kg) Including TRHD Bracket
Dimensions (D, W, H)	7.17 x 12.24 x 7.09" (182 x 311 x 180mm)

Part No.	Beam Angle	eLumens	Voltage	Watts	Bracket
LUC30-TRHD	10°, 25°, 40°, 60°, 90°	18,000 Lu	90-277V AC (Standard) 480V (HV)	140W	Heavy-Duty Trunnion Bracket
LUC30-TRSS	10°, 25°, 40°, 60°, 90°	18,000 Lu	90-277V AC (Standard) 480V (HV)	140W	Stainless Steel Bracket

Bracket Options
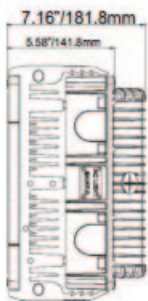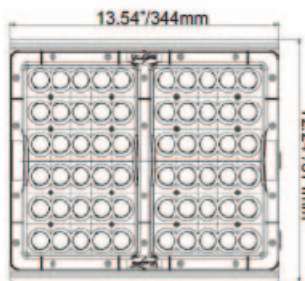
Heavy-Duty Trunnion Bracket

Stainless Steel Bracket

Shovel & Dragline Lighting
Dragline Perimeter Light

## 280W Shovel / Dragline Perimeter Light

The 280W industrial area light by Vision X features advanced electronic technology like Pulse Width Modulation, Electronic Thermal Management, and a Redundant Circuit Design (60 LED) that allow the fixture to function even if half of the light should fail.

Technical Specifications

Type	60 x XP-LHD (CREE) LEDsA623MF-24V Medium Flood
Lumens	36,000 Lu
Beam Patterns	Spot 10° (SD), Narrow 25° (ND), Medium 40° (MD), Flood 60° (FD), Wide Flood 90° (WD)
Color Temperature	5000K
Voltage	90-277V AC (LV - Low Voltage), 480V AC (HV - High Voltage)
Wattage	280W
Current Draw	2.43A @ 115V AC, 1.22A @ 230V AC, 1.01A @ 277V AC
Operating Temperature	-40°C - 40°C
Vibration	15.6Grms
IP Rating	IP68, IP69K
Certifcations / Ratings	EMC Emission: EN55015, EN55022 (CISPR22) Class B, EN61000-3-2, Class C (@ Load ≥ 50%); EN61000-3-3. EMC Immunity: EN61000-4-2,3,4,5,6,8,11, EN61547, EN55024, Light Industry Level surge immunity Line-Earth 4KV, Line-Line 2KV
Short Circuit	Constant current limiting, recovers automatically after fault condition is removed
Housing	Die-Cast 6061 Aluminum, Grey in color
Lens	Polycarbonate Lens
Weight	60 lbs (27.5kg) Including TRHD Bracket
Dimensions (D, W, H)	7.17 x 13.54 x 12.24" (182 x 344 x 311mm)

Part No.	Beam Angle	eLumens	Voltage	Watts	Bracket
LUC60-TRHD	10°, 25°, 40°, 60°, 90°	36,000 Lu	90-277V AC (Standard) 480V (HV)	280W	Heavy-Duty Trunnion Bracket
LUC60-TRSS	10°, 25°, 40°, 60°, 90°	36,000 Lu	90-277V AC (Standard) 480V (HV)	280W	Stainless Steel Bracket
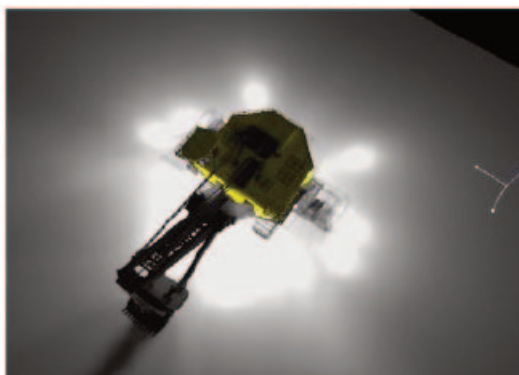
Shovel Optics
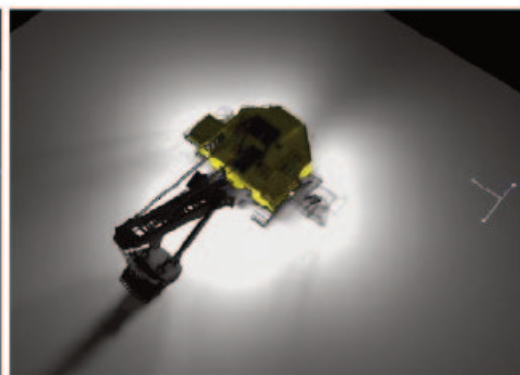
90° Optics

Bracket Options

Heavy-Duty Trunnion Bracket

Stainless Steel Bracket

Shovel & Dragline Lighting
LED Scene Lights

623 Series

The J.W. Speaker 623 boasts a bright, high-output LED scene light. It is perfect for a wide range of uses, including mining equipment, light towers, and any application for which you need a vast amount of light. Looking for AC Power? Use the JW Speaker Model 6406 240W AC/DC Converter.

Features
- Lens: hardened glass
- Electrical Connection: integrated 2-Pin Deutsch Weather-Proof Socket (DT04-2P)
- Surge: 150V Peak @ 1Hz-100 Pulses
- Dimensions (DxWxH): 3.50 x 19.63 x 8.52" (88.90 x 498.60 x 216.41mm)
- Weight : 18.0 lbs (8.16kg)

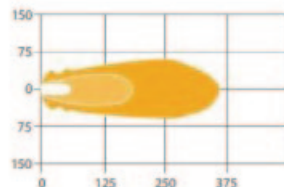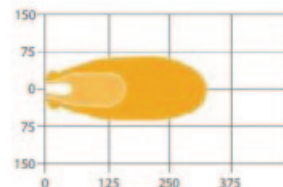| A6406 240W AC/DC Converter | AC Input Harness 1-Meter | AC Input Harness 10-Meter | DC Input Harness 1-Meter | DC Input Harness 3-Meter | DC Output Harness 3-Meter w/ DC Terminal Kit |

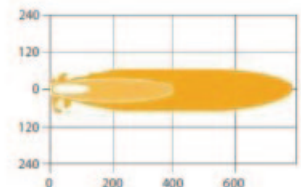| Part No.	Beam	eLumens	Voltage	Amps (24V)	Watts	IP Rating	Warranty
A623WF-24V	Wide Flood	20,000 Lu	16-60V DC	10A	240W	IP69K	5 Years
A623MF-24V	Medium Flood	20,000 Lu	16-60V DC	10A	240W	IP69K	5 Years
A623NF-24V	Narrrow Flood	20,000 Lu	16-60V DC	10A	240W	IP69K	5 Years

Lux: 10+ 1 0.25

Medium Flood (2.5m High at -15°)

Wide Flood (2.5m High at -15°)

Narrrow Flood (2.5m High at -15°)

Illuminance (Lux)

150.0 / 131.25 / 112.50 / 93.75 / 75.00 / 56.25 / 37.50 / 18.75 / 0.00
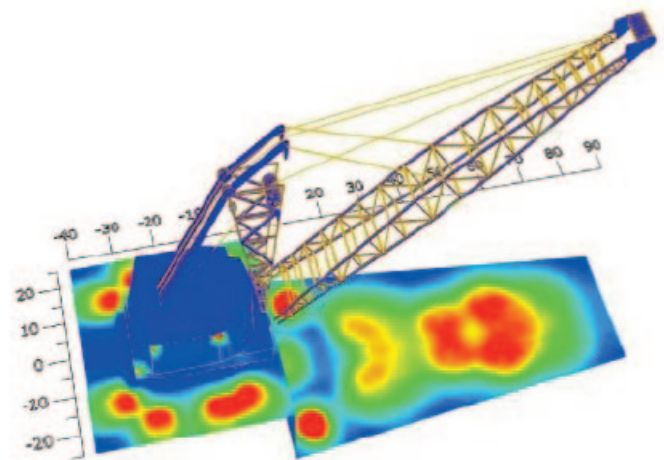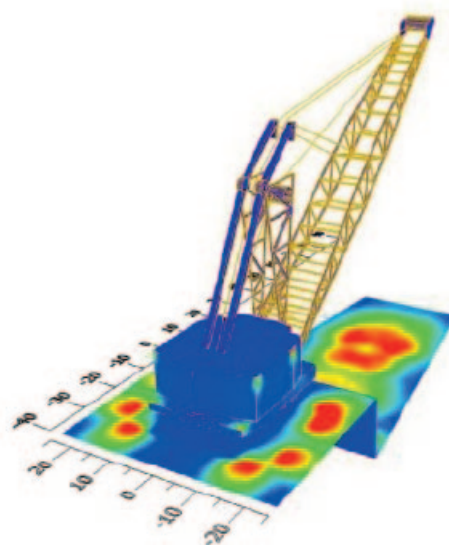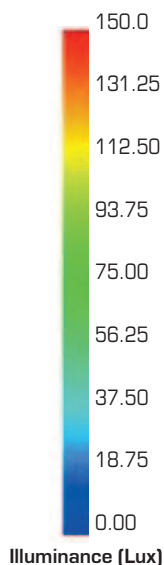
Shovel & Dragline Lighting

Warning Lights

527 Warning Zone Light

The J.W. Speaker 527 adds a new level of safety to surface mining and construction sites. It projects a large "Keep Out" zone of red light onto the ground to alert workers and vehicles to stay out of potentially hazardous work areas, such as the swing path a shovel or drag line bucket.
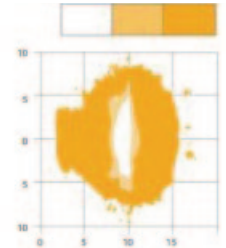
Features
- Lens: durable glass
- Xenoy housing and universal trunnion mount
- Electrical Connection: integrated 2-Pin Deutsch Weatherproof Socket (DT04-2P)
- Surge: 150V Peak @ 1Hz-100 Pulses
- Dimensions: (DxWxH): 1.61 x 5.96 x 2" (40.89 x 151.38 x 50.80mm)
- Weight: 2.6 lbs (1.18kg)

Applications: Shovels and draglines

Lux: 10+ 1 0.25

**Warning "Keep Out" Zone
(6m High at 0°)**

Part No.	Beam	eLumens	rLumens	Voltage	Amps (12V)	Watts	IP Rating	Warranty
527R	Red Zone	670 Lu	720 Lu	12-24V DC	0.85A	20W	IP69K	5 Years
527G	Green Zone	670 Lu	720 Lu	12-24V DC	0.85A	20W	IP69K	5 Years
527A	Amber Zone	670 Lu	720 Lu	12-24V DC	0.85A	20W	IP69K	5 Years
527W	White Zone	670 Lu	720 Lu	12-24V DC	0.85A	20W	IP69K	5 Years

Phone: 812.490.1525 • Fax: 812.490.1582 • 3299 Tower Drive • Newburgh, Indiana 47630 • email: sales@matrixteam.com • **www.matrixteam.com**