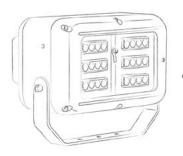




# PRODUCT OVERVIEW





# UK Designed and Manufactured

All Raytec hazardous area products are designed and manufactured in the UK and are ATEX and IEC Ex approved. We're so confident in them that all our products come with a 5 year warranty. Raytec and all our products are also ISO9001 and ISO14001 certified.



### Full Product Family

Raytec manufacture a full range of hazardous area lighting with SPARTAN Flood, Linear, Bulkhead and Transportable, meaning there's a solution for any application.

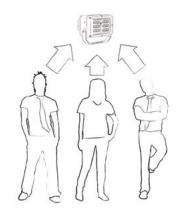




#### Global Reach

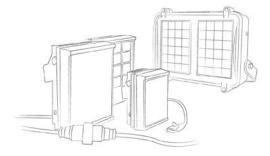
Based at our HQ, near Newcastle, UK, we also have sales offices in Canada. Australia. Germany and China.

Our products are successfully deployed globally from the Arctic Circle to the Jungles of Borneo.



### Lighting Specialists

Raytec and all our people are 100% focused on lighting. Everything from product design, to manufacture, to sales and after sales service is under one roof at our Global HQ.



### Our Background

Founded in 2005, Raytec are the world leaders in LED lighting for security and safety, with over half a million products currently in service. We've used our expertise to create SPARTAN – a new range of Hazardous Area lighting which delivers class leading performance and reliability.

















SPARTAN Flood is a complete family of hazardous area floodlights. Available in 3 sizes and as standard or emergency SPARTAN delivers variants. the highest performance, most energy efficient, modular and maintenance friendly solution for hazardous environments.

SPARTAN Linear luminaires are available as standard or emergency variants and are designed for new installations or to retrofit existing fluorescent installations, easily allowing the customer to enjoy all the benefits of LED lighting while making regular lamp changes redundant.

SPARTAN Bulkhead is a compact, low profile luminaire designed for restricted space applications. SPARTAN Bulkhead provides the highest performance and efficiency while maintaining excellent reliability. SPARTAN Bulkhead luminaires are available as standard or emergency variants.

SPARTAN Transportable range provides all the benefits associated with the SPARTAN Flood, Linear and Bulkhead products but in a transportable version to maximise flexibility and functionality, increasing suitability for a wider range of applications.



ATEX and IEC Ex Approved Zone 1 and 2 (C1D2 and C2D2 pending)



5 Year Warranty



UK Designed and Manufactured



Available in White-Light and Infra-Red



# SPARTAN FLOOD (Ex)

### Ultra-Powerful

SPARTAN Flood integrates the latest high power LEDs with Raytec's field proven LED management and optic technology. This delivers a high lumen output of up to 10,000 lumens even during emergency operation when running off the integral battery.

### Robust

Housed in marine grade aluminium with A4 stainless steel fasteners and brackets, SPARTAN Flood is IP66 and IP67 rated and can survive in the most extreme environments.

# Wide Operating Temperature

An operating temperature range of -52°C to + 55°C\* with a T4/T5/T6 rating means SPARTAN Flood is suitable for even the most challenging conditions.

\* Emergency variants have an operating temperature of -20°C to +55°C

# VARIO Technology

SPARTAN Flood is available with a variety of different beam patterns, both circular and elliptical. Elliptical illumination angles can be altered on-site with our unique VARIO interchangeable lens system.

### LED Friendly

SPARTAN Flood uses CoolExtrude™ thermal management technology, ensuring a much cooler LED operating temperature. This provides up to 60% better heat dissipation compared to traditional lighting solutions and allows the product to operate for 10+ years in the most challenging environments.





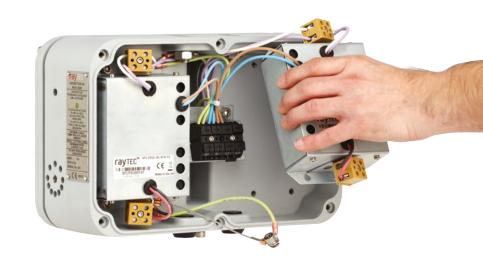
# **Emergency Back-Up**

SPARTAN Flood\* is available as an emergency variant, and standard variants can be converted to an emergency fitting at any time on-site, using an additional battery back-up module which can deliver up to 100% light output under emergency conditions.

\* Excludes SPARTAN Flood WL12 and IR12

### Flexible Installation and Low Maintenance

The modular design allows great flexibility - the entire PSU chassis can be removed and located remotely at ground level for areas with difficult access. Additionally the individual PSU modules can be easily accessed and replaced making servicing and inspection of all key components quicker and easier.

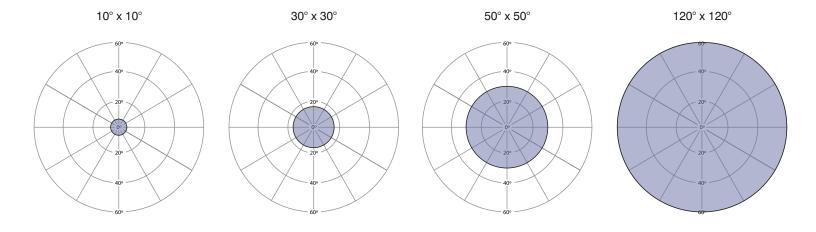


### Beam Patterns

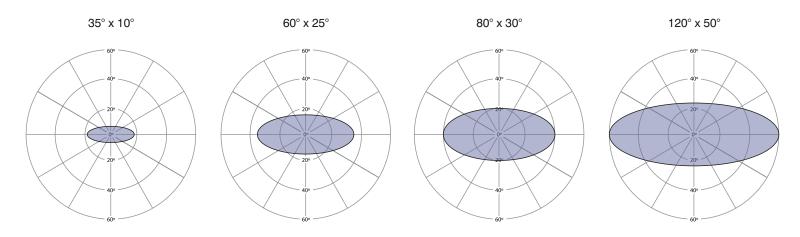
Raytec offer a range of different interchangeable beam patterns that can be easily altered on site delivering the ultimate flexibility to specifiers, distributors and end users.

The circular beam patterns maximise light output while the elliptical beam patterns use Raytec's revolutionary VARIO holographic lens technology to shape the light providing greater illumination distances with significantly reduced energy wastage.

#### **BEAM PATTERNS - CIRCULAR**



#### BEAM PATTERNS – ELLIPTICAL (VARIO)













RTAN	SPARTAN
<b>D</b> WL48	FLOOD WL48 Emergency

SPARTAN	
FLOOD WL24	

FLOOD WL24 Emergency
ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending

Certification	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending
Angles	10°x10° / 35°x10° / 60°x25° / 80°x30° / 120°x50° + 30, 50 and 120° circular options	10°x10° / 35°x10° / 60°x25° / 80°x30° / 120°x50° + 30, 50 and 120° circular options	10°x10° / 35°x10° / 60°x25° / 80°x30° / 120°x50° + 30, 50 and 120° circular options	10°x10° / 35°x10° / 60°x25° / 80°x30° / 120°x50° + 30, 50 and 120° circular options	10°x10° / 35°x10° / 60°x25° / 80°x30° / 120°x50° + 30, 50 and 120° circular options
Input	110-254V 50/60Hz AC only Low voltage option also available	110-254V 50/60Hz AC only	110-254V 50/60Hz AC only Low voltage option also available	110-254V 50/60Hz AC only	110-254V 50/60Hz AC only Low voltage option also available
Beam Shape	Elliptical or Circular	Elliptical or Circular	Elliptical or Circular	Elliptical or Circular	Elliptical or Circular
Beam Angle System	VARIO interchangeable lens system (elliptical) / Fixed (circular)	VARIO interchangeable lens system (elliptical) / Fixed (circular)	VARIO interchangeable lens system (elliptical) / Fixed (circular)	VARIO interchangeable lens system (elliptical) / Fixed (circular)	VARIO interchangeable lens system (elliptical) / Fixed (circular)
Consumption	136W	139W	68W	71W	34W
LED type	Platinum Elite SMT LEDS	Platinum Elite SMT LEDS	Platinum Elite SMT LEDS	Platinum Elite SMT LEDS	Platinum Elite SMT LEDS
Number of LEDS	48	48	24	24	12
Power output (luminous flux)	Up to 10,000 lm – circular beam Up to 9,000 lm – elliptical beam	Up to 10,000 lm – circular beam Up to 9,000 lm – elliptical beam	Up to 5,000 lm – circular beam patterns Up to 4,500 lm – elliptical beam patterns	Up to 5,000 lm – circular beam patterns Up to 4,500 lm – elliptical beam patterns	Up to 2,500 lm – circular beam patterns Up to 2,250 lm – elliptical beam patterns
Wavelength	White-Light (also available in Infra-Red)	White-Light (also available in Infra-Red)	White-Light (also available in Infra-Red)	White-Light (also available in Infra-Red)	White-Light (also available in Infra-Red)
IP Rating	IP66 and IP67	IP66 and IP67	IP66 and IP67	IP66 and IP67	IP66 and IP67
Temperature Range	-52°C to +55°C (-62°F to 131°F)	-20°C to +55°C (-4°F to 131°F)	-52°C to +55°C (-62°F to 131°F)	-20°C to +55°C (-4°F to 131°F)	-52°C to +55°C (-62°F to 131°F)
Colour Temperature (White-Light)	6,000K +	6,000K +	6,000K +	6,000K +	6,000K +
Colour	Silver/Grey	Silver/Grey	Silver/Grey	Silver/Grey	Silver/Grey
Weight	16kg (35.2lbs)	20kg (44lbs)	8kg (17.6lbs)	10Kg (22lbs)	5kg (11lbs)
Dimensions	291 x 438 x 151mm (11.4 x 17.2 x 5.9")	291 x 438 x 215mm (11.4 x 17.2 x 8.5")	291x247x150mm (11.5x9.7x6")	291x247x215mm (11.5x9.7x8.5")	192 x 206 x 170mm (7.6 x 8.1 x 6.7")
Additional Features	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants
Emergency Battery Back-up					
Battery		Ni/Cd 12V 4.5Ah		Ni/Cd 12V 4.5Ah	
Duration		Up to 1hr @ 100% power (2x battery units) Up to 2hrs @ 50% power (2 x battery units) Up to 1hr @ 50% power (1x battery unit) Up to 2hrs @ 25% power (1 x battery units)		Up to 1hr @ 100% power Up to 2hrs @ 50% power	
Charge Time		20 hours		20 hours	
Part Codes					
Circular beam pattern	SPX-FL48-W-1010 / SPX-FL48-W-3030 SPX-FL48-W-5050 / SPX-FL48-W-120120	SPX-FL48-W-1010-EM / SPX-FL48-W-3030-EM SPX-FL48-W-5050-EM / SPX-FL48-W-120120-EM	SPX-FL24-W-1010 / SPX-FL24-W-3030 SPX-FL24-W-5050 / SPX-FL24-W-120120	SPX-FL24-W-1010-EM / SPX-FL24-W-3030-EM SPX-FL24-W-5050-EM / SPX-FL24-W-120120-EM	SPX-FL12-W-1010 / SPX-FL12-W-3030 SPX-FL12-W-5050 / SPX-FL12-W-120120
Elliptical beam pattern	SPX-FL48-W-3510 / SPX-FL48-W-6025 SPX-FL48-W-8030 / SPX-FL48-W-12050	SPX-FL48-W-3510-EM / SPX-FL48-W-6025-EM SPX-FL48-W-8030-EM / SPX-FL48-W-12050-EM	SPX-FL24-W-3510 / SPX-FL24-W-6025 SPX-FL24-W-8030 / SPX-FL24-W-12050	SPX-FL24-W-3510-EM / SPX-FL24-W-6025-EM SPX-FL24-W-8030-EM / SPX-FL24-W-12050-EM	SPX-FL12-W-3510 / SPX-FL12-W-6025 SPX-FL12-W-8030 / SPX-FL12-W-12050

# SPARTAN LINEAR (Ex)

# LED Friendly

SPARTAN Linear uses CoolExtrude™ thermal management technology, ensuring a much cooler LED operating temperature. This provides up to 60% better heat dissipation compared to traditional lighting solutions and allows the product to operate for 10+ years in the most challenging environments.

### Robust

Housed in marine grade aluminium with stainless steel fasteners and brackets, SPARTAN Linear is IP66 and IP67 rated and can survive in the most extreme environments.

# Wide Operating Temperature

An operating temperature range of  $-20^{\circ}$ C to  $+55^{\circ}$ C with a T4/T5/T6 rating means SPARTAN Linear is suitable for even the most challenging conditions.

### Retrofitable

SPARTAN Linear is a direct replacement for fluorescent fittings, meaning you can upgrade to LED light without complication.

# Easy Maintenance

A maintenance friendly modular design allows quick and easy servicing and inspection of all key components including LED and PSU modules. SPARTAN Linear has also been designed without ledges to prevent dust or water from accumulating.

# **Emergency Back-Up**

SPARTAN Linear is available as an emergency variant, and standard variants can be converted to an emergency fitting at any time on-site, using an additional battery back-up module which can run up to 100% light output under emergency conditions.



Available on request





Available on request



		0 )		
Certification	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending
Input	110-254V 50/60Hz AC only Low voltage option also available	110-254V 50/60Hz AC only	110-254V 50/60Hz AC only Low voltage option also available	110-254V 50/60Hz AC only
Beam Angle	Same light distribution as standard fluorescent luminaires	Same light distribution as standard fluorescent luminaires	Same light distribution as standard fluorescent luminaires	Same light distribution as standard fluorescent luminaire
Consumption	68W	71W	34W	37W
LED type	Platinum SMT LEDs	Platinum SMT LEDs	Platinum SMT LEDs	Platinum SMT LEDs
Number of LEDS	168	168	84	84
Power output (luminous flux)	Up to 5,000 lm	Up to 5,000 lm	Up to 2,500 lm	Up to 2,500 lm
Wavelength	White-Light	White-Light	White-Light	White-Light
IP Rating	IP66 and IP67	IP66 and IP67	IP66 and IP67	IP66 and IP67
Temperature Range	-20°C to +55°C (-4°F to 131°F) (TBC)			
Colour Temperature (white-light)	6,000K +	6,000K +	6,000K +	6,000K +
Colour	Silver/Grey	Silver/Grey	Silver/Grey	Silver/Grey
Weight	9kg (19.8lbs)	10kg (22lbs)	6kg (13.2lbs)	7kg (15.4lbs)
Dimensions	1292 x 108 x 174mm (50.9 x 4.3 x 6.9")	1407 x 108 x 174mm (53.4 x 4.3 x 6.9")	772 x 108 x 174mm (30.4 x 4.3 x 6.9")	772 x 108 x 174mm (30.4 x 4.3 x 6.9")
Additional Features	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants
mergency Battery Back-up				
Battery		Ni/Cd 12V		Ni/Cd 12V
Duration		Up to 8hrs @ 10% power Other options available		Up to 8hrs @ 10% power Other options available
Charge Time		20 hours		20 hours
art Codes				

Available on request

Available on request

# SPARTAN BULKHEAD (Ex)

### **Emergency Back-Up**

SPARTAN Bulkhead is available as an emergency variant, and standard variants can be converted to an emergency fitting at any time on-site, using an additional battery back-up module which can run up to 100% light output under emergency conditions.

# LED Friendly

SPARTAN Bulkhead uses CoolExtrude™ thermal management technology, ensuring a much cooler LED operating temperature. This provides up to 60% better heat dissipation compared to traditional lighting solutions and allows the product to operate for 10+ years in the most challenging environments.

# Compact

Spartan BULKHEAD has a compact, low profile design for restricted space applications. It also allows easy access to the back of the unit with rear cable entries, so cabling can be hidden and protected from damage.

### Robust

Housed in marine grade aluminium with stainless steel fasteners and brackets, SPARTAN Bulkhead is IP66 and IP67 rated and can survive in the most extreme environments.

# VARIO Technology

SPARTAN Bulkhead is available with a variety of different beam patterns, both circular and elliptical. Elliptical illumination angles can be altered on-site with our unique VARIO interchangeable lens system.

# Wide Operating Temperature

An operating temperature range of -52°C to + 55°C\* with a T4/T5/T6 rating means SPARTAN Bulkhead is suitable for even the most challenging conditions.

\* Emergency variants have an operating temperature of -20°C to +55°C









# SPARTAN BULKHEAD BL24 Emergency

	DOEKI IERD DLZ7	DOENTERD DEZ TETTET GETTCY	
Certification	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	
Angles	$10^{\circ}x10^{\circ}$ / $35^{\circ}x10^{\circ}$ / $60^{\circ}x25^{\circ}$ / $80^{\circ}x30^{\circ}$ / $120^{\circ}x50^{\circ}$ + $30,50$ and $120^{\circ}$ circular options	10°x10° / 35°x10° / 60°x25° / 80°x30° / 120°x50° + 30, 50 and 120° circular options	
Input	110-254V 50/60Hz AC only Low voltage option also available	110-254V 50/60Hz AC only	
Beam Shape	Elliptical or Circular	Elliptical or Circular	
Beam Angle System	VARIO interchangeable lens system (elliptical) / Fixed (circular)	VARIO interchangeable lens system (elliptical) / Fixed (circular)	
Consumption	34W	37W	
LED type	Platinum Elite SMT LEDs	Platinum Elite SMT LEDs	
Number of LEDS	24	24	
Power output (luminous flux)	Up to 2,500 lm – circular beam patterns Up to 2,250 lm – elliptical beam patterns	Up to 2,500 lm – circular beam patterns Up to 2,250 lm – elliptical beam patterns	
Wavelength	White-Light (also available in Infra-Red)	White-Light (also available in Infra-Red)	
IP Rating	IP66 and IP67	IP66 and IP67	
Temperature Range	-52°C to +55°C (-62°F to 131°F) (TBC)	-20°C to +55°C (-4°F to 131°F) (TBC)	
Colour Temperature (White-Light)	6,000K +	6,000K +	
Colour	Silver / Grey	Silver / Grey	
Weight	5kg (11lbs)	6kg (13.2lbs)	
Dimensions	228 x 220x 122mm	228 x 220x 122mm	
Dimensions	(11.3 x 8.7 x 4.8")	(11.3 x 8.7 x 4.8")	
CoolExtrude™ Thermal Management Removable PSU and LED modules  Additional Features Smart access wiring system Photocell (optional) T4, T5 and T6 Variants		CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	
Emergency Battery Back-up			
Battery		Ni/cd 12V	
Duration		Up to 180mins @ 25% power Other options available	
Charge Time		20 hours	
Part Codes			
Circular beam pattern	SPX-BL24-W-1010 SPX-BL24-W-3030 SPX-BL24-W-5050 SPX-BL24-W-120120	SPX-BL24-W-1010-EM SPX-BL24-W-3030-EM SPX-BL24-W-5050-EM SPX-BL24-W-120120-EM	
Elliptical beam pattern	SPX-BL24-W-3510 SPX-BL24-W-6025 SPX-BL24-W-8030 SPX-BL24-W-12050	SPX-BL24-W-3510-EM SPX-BL24-W-6025-EM SPX-BL24-W-8030-EM SPX-BL24-W-12050-EM	

# SPARTAN TRANSPORTABLE (Ex

### Transportable

Fully transportable for use in a diverse range of applications.

### LED Friendly

SPARTAN Transportable uses CoolExtrude™ thermal management technology, ensuring a much cooler LED operating temperature. This provides up to 60% better heat dissipation compared to traditional lighting solutions and allows the product to operate for 10+ years in the most challenging environments.

# Wide Operating Temperature

An operating temperature range of  $-52^{\circ}$ C to  $+55^{\circ}$ C\* with a T4/T5/T6 rating means SPARTAN Transportable is suitable for even the most challenging conditions.

\* Emergency variants have an operating temperature of -20°C to +55°C

# Easy Maintenance

A maintenance friendly modular design allows quick and easy servicing and inspection of all key components including LED and PSU modules.

# **VARIO** Technology

SPARTAN Transportable is available with a variety of different beam patterns, both circular and elliptical. Elliptical illumination angles can be altered on-site with our unique VARIO interchangeable lens system.\*

\* Excludes SPARTAN Linear Transportable variants

The SPARTAN Transportable range is also available in a number of other variants, including emergency and infra-red versions. Contact us for more information.

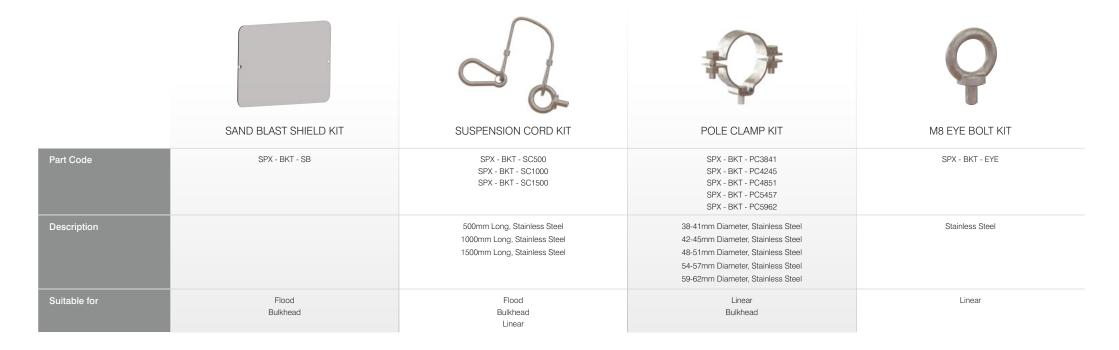


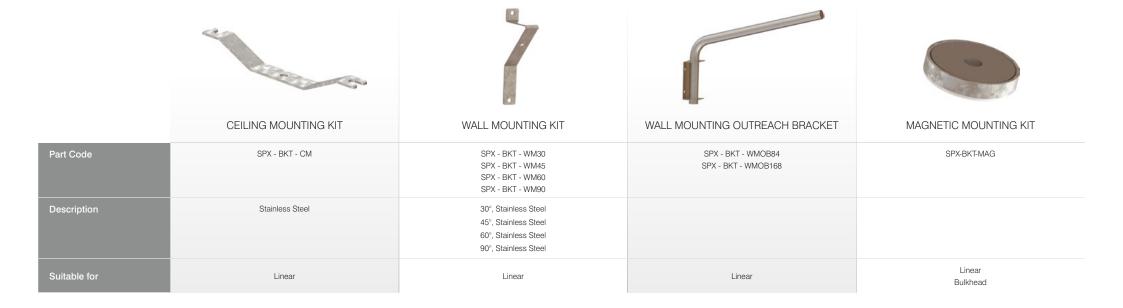




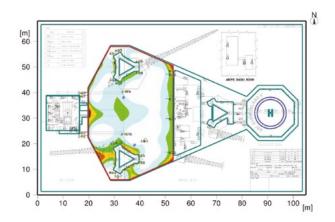
Certification	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending	ATEX and IEC Ex rated for zone 1&2 Gas and Dust C1D2 and C2D2 pending
Angles	10°x10° / 35°x10° / 60°x25° / 80°x30° 120°x50° / + 30, 50 and 120° circular options	10*x10° / 35'x10° / 60°x25° / 80°x30° 120°x50° / + 30, 50 and 120° circular options	
Input	110-254V 50/60Hz AC only Low voltage option also available	110-254V 50/60Hz AC only Low voltage option also available	110-254V 50/60Hz AC only Low voltage option also available
Beam Shape	Elliptical or Circular	Elliptical or Circular	
Beam Angle System	VARIO interchangeable lens system (elliptical) / Fixed (circular)	VARIO interchangeable lens system (elliptical) / Fixed (circular)	
Consumption	68W	34W	34W
LED type	Platinum Elite SMT LEDs	Platinum Elite SMT LEDs	Platinum SMT LEDs
Number of LEDS	24	24	84
Power output (luminous flux)	Up to 5,000 lm – circular beam patterns Up to 4,500 lm – elliptical beam patterns	Up to 2,500 lm – circular beam patterns Up to 2,250 lm – elliptical beam patterns	Up to 2,500 lm
Wavelength	White-Light (also available in Infra-Red)	White-Light (also available in Infra-Red)	White-Light
IP Rating	IP66 and IP67	IP66 and IP67	IP66 and IP67
Temperature Range	-52°C to +55°C (-62°F to 131°F)	-52°C to +55°C (-62°F to 131°F)	-20°C to +55°C (-4°F to 131°F)
Colour Temperature (White-Light)	6,000K+	6,000K+	6,000K+
Colour	Silver/Grey	Silver/Grey	Silver/Grey
Weight	11kg (24.25lbs)	8kg (17.6lbs)	6kg (13.2lbs)
Dimensions	348 x 356 x 400mm (1.7 x 14 x 15.7")	348 x 356 x 400mm (1.7 x 14 x 15.7")	772 x 108 x 174mm (30.4 x 4.3 x 6.9")
CoolExtrude ™ Thermal Management Removable PSU and LED modules Additional Features Smart access wiring system Photocell (optional) T4, T5 and T6 Variants		CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants	CoolExtrude™ Thermal Management Removable PSU and LED modules Smart access wiring system Photocell (optional) T4, T5 and T6 Variants

Circular beam pattern	SPX-FLT24-W-1010 SPX-FLT24-W-3030 SPX-FLT24-W-5050 SPX-FLT24-W-120120	Available on request	Available on request
Elliptical beam pattern	SPX-FLT24-W-3510 SPX-FLT24-W-6025 SPX-FLT24-W-8030 SPX-FLT24-W-12050	Available on request	Available on request



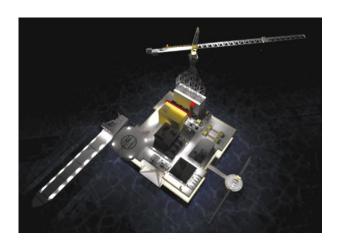


#### Raytec Design Services



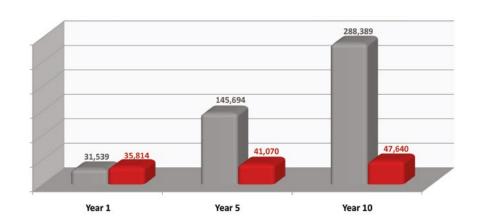
### 2D Lighting Design

Detailed plan of the site Recommended product type Recommended number of lights Average, max and min light levels



### 3D Lighting Design

Visual representation of the site Recommended product type Recommended number of lights Average, max and min light levels



### **Energy and Cost Saving Report**

Customer specific survey Energy, CO2 savings and ROI Cost savings over 1,5 and 10 years



### Special Operations Division

Custom-Built Product Design Bespoke Projects Challenging Applications



# Hazardous Area Lighting with Worldwide Certification

Global HQ

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