LLP （Linear Low Pro Series）

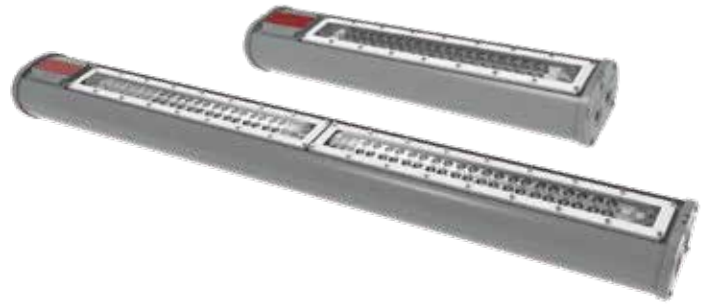# Hazardous Location LED Luminaire

RED SKY
SERIOUSLY SAFE LIGHTS™

LLP

Hazardous Location LED Luminaire
Linear Low Pro Series

Product description

The Linear Low Pro Series LED Luminaire is designed for installations in hazardous area with presence of flammable gases or combustible dusts as defined by ATEX / IECEx for Zone 1/21 applications.

New generation is great for replacingof existing fluorescent lighting system and provide an incredible 100,000 (L70) maintenance free hours at 25°C.

Features

- Low profile design allows installation in work areas with low ceiling heights
- Lens and LED driver field replaceable by qualified personnel on-site
- UV stable and impact resistant clear or diffused PC lens (standard) to minimize glare
- One wiring access cover with captive screws as standard, two(optional) for end to end feed through wiring
- WAGO screwless terminal block with 5-pole 6mm² max conductor for easy wiring
- Single Lens model 20W to 40W; Double Lens model 40W to 100W
- High luminous efficacy - Up to 120 lm / W.
- Universal Voltage: AC120-277V (50/60Hz)
- Superior CRI75 compared to HPS, LPS, MH
- Ambient range from - 40°C to + 55°C (-20°C to 50°C for Emergency Model)
- Standard 12W 90mins operation time for emergency mode (6W 180mins optional)
- Resistant to shock and vibration

Compliance

IEC/ATEX Standard

IECEX: Ex db eb mb IIC T6 Gb(20 to 60W)
　　　 Ex db eb mb IIC T5 Gb(>60 to 100W)
　　　 Ex tb IIIC T80°C Db

ATEX: II 2 G Ex db eb mb IIC T6 Gb(20 to 60W)
　　　 II 2 G Ex db eb mb IIC T5 Gb(>60 to 100W)
　　　 II 2 D Ex tb IIIC T80°C Db

Zone 1,21
CE EMC/LVD/EMF
EN62471
IP66
IK10
5G vibration
1000hrs salt spray

Application

- Power Plants
- Heavy Industrials Storage Facility
- Paper mills
- Wastewater Treatment Plants
- Loading Docks Platforms
- Shipyards
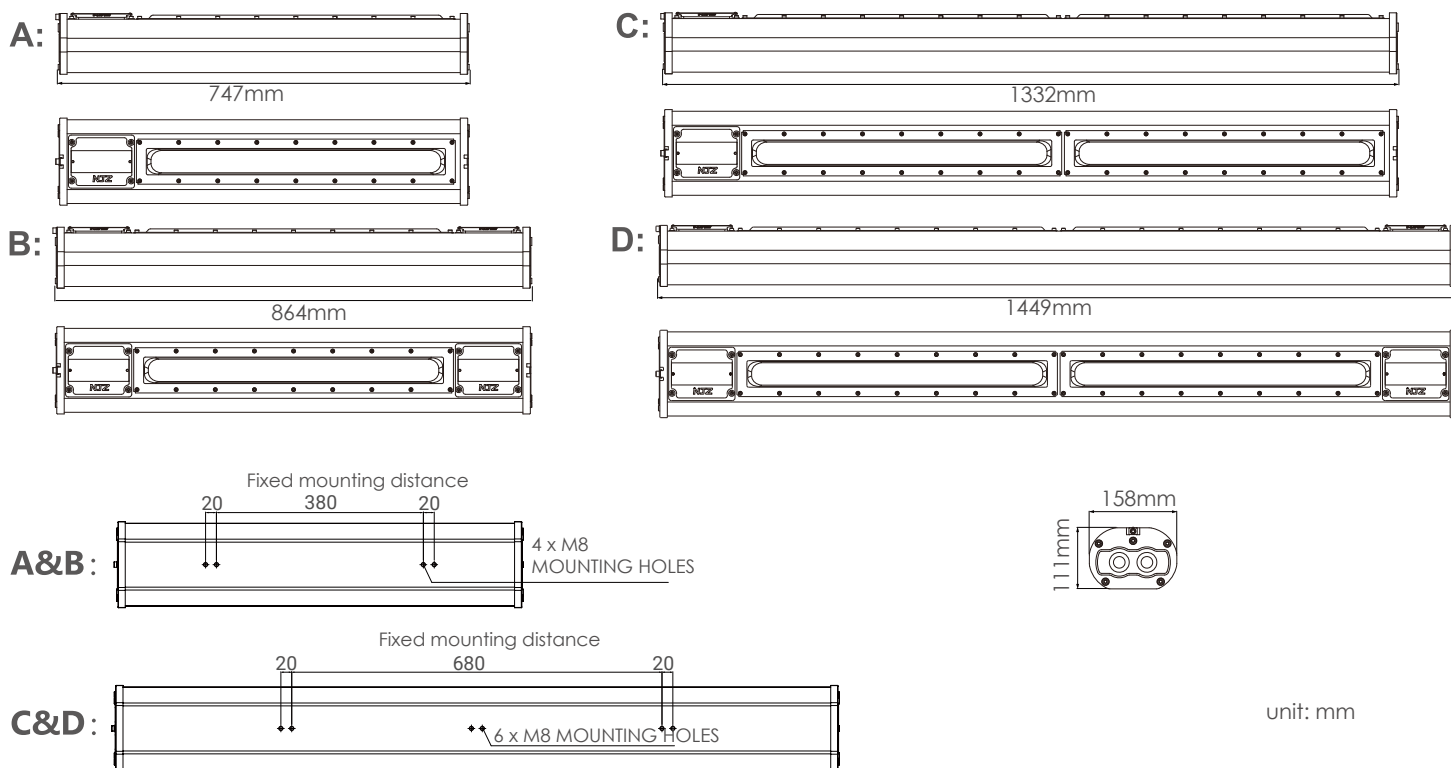 Chemical Processing Facility
  Petrochemical Processing Facility

Warranty

7-Year Standard Warranty(Battery not included)*
* Subject to RSL general T & C.
LED lumen Maintenance: L70>150,000 Operation Hours@55°C

Product Dimensions

A:
747mm

B:
864mm

C:
1332mm

D:
1449mm

A&B:
Fixed mounting distance
20   380   20
4 x M8
MOUNTING HOLES

C&D:
Fixed mounting distance
20   680   20
6 x M8 MOUNTING HOLES

158mm
111mm

unit: mm

Model		Net Weight (Product)	Product Dimension	Gross weight	Package Dimension (L×W×H)
A:	LLP-20/40	6.3kg	747×158×111 mm	7.3kg	809×220×170 mm
B:	LLP-20/40	6.7kg	864×158×111 mm	7.7kg	920×220×170 mm
C:	LLP-40/60/80/100	9.5kg	1332×158×111 mm	11.4kg	1388×220×170 mm
D:	LLP-40/60/80/100	9.9kg	1449×158×111 mm	12.6kg	1505×220×170 mm

Technical Parameter

Electrical

Specification		LLP-20	LLP-40
Rated Power		20W	40W
Input Voltage		AC120-277V	
Input Frequency		50/60Hz	
Input Current	(AC120V)	182mA	330mA
	(AC230V)	99mA	172mA
Power Factor		≥0.95	
Driver Efficiency		≥90%	
THD		<20%	
Surge Protection		6KV Line-to ground	
Battery material		Nickel-cadmium	
Expected battery*		3 Year	
Battery Duration*		Standard 12W 90mins@-20 ℃~+50 ℃(6W 180mins optional)	

*All values typical (tolerance +/-10%)

Optical

Specification	LLP-20	LLP-40
Lumen Output	2400Lm	4400Lm
Lumens Per Watt	120Lm/W*	
Beam Angle	110°	
Correlated Color Temperature (CCT)	3000K/4000K/5000K/5700K	
Color Rendering Index (CRI)	Ra>70	

*value calculated based on 5000K ,varies to differrent spec

Environmental

Specification	LLP-20	LLP-40
Ambient Operating Humidity	5%~95% RH	
Ambient Operating Temperature	-40°C~+55°C(-40°F~+122°F) -20°C~+50°C(Emergency Model)	
Optimal Operating Temperature	25°C (77°F)	
Gas Environment	T6	
Dust Environment	T80°C	

Mechanical

Specification	LLP-20	LLP-40
Housing Material	Marine grade aluminum	
Endcap / Front cover	Copper-free (< 0.4%) die-cast aluminum	
Hardware	Stainless steel 316	
Color	Dark Grey (RAL7037)	
Finish	Polyster powder coating for uniform corrosion resistance	
Protection	IP66/IK10	
Lens Material	Polycarbonate	
Wiring	One access cover standard, two for through wiring	
Cable entries	4 x M20 - 2 at each end (standard,other optional)	
Termination	L,L1,L2,L3,N,PE; each Terminal 2x6mm² max	
Mounting	Ceiling (Flush mount), Wall, Suspended (Chain /Eyebolt), Pole	

Technical Parameter

Electrical

Specification		LLP-60	LLP-80	LLP-100
Rated Power		60W	80W	100W
Input Voltage		AC120-277V		
Input Frequency		50/60Hz		
nput Current	(AC120V)	497mA	651mA	825mA
	(AC230V)	264mA	340mA	435mA
Power Factor		≥0.95		
Driver Efficiency		≥90%		
THD		<20%		
Surge Protection		6KV Line-to ground		
Battery material		Nickel-cadmium		
Expected battery*		3 Year		
Battery Duration*		Standard 12W 90mins@-20 °C~+50 °C(6W 180mins optional)		

*All values typical (tolerance +/-10%)

Optical

Specification	LLP-60	LLP-80	LLP-100
Lumen Output	6800Lm	8700Lm	10000Lm
Lumens Per Watt	120Lm/W*		
Beam Angle	110°		
Correlated Color Temperature (CCT)	3000K/4000K/5000K/5700K		
Color Rendering Index (CRI)	Ra>70		

*value calculated based on 5000K ,varies to differrent spec

Environmental

Specification	LLP-60	LLP-80	LLP-100
Ambient Operating Humidity	5%~95% RH		
Ambient Operating Temperature	-40°C~+55°C(-40°F~+122°F) -20°C~+50°C(Emergency Model)		
Optimal Operating Temperature	25°C (77°F)		
Gas Environment	T6	T5	
Dust Environment	T80°C		

Mechanical

Specification	LLP-60	LLP-80	LLP-100
Housing Material	Marine grade aluminum		
Endcap / Front cover	Copper-free (< .4%) die-cast aluminum		
Hardware	Stainless steel 316		
Color	Dark Grey (RAL7037)		
Finish	Polyster powder coating for uniform corrosion resistance		
Protection	IP66/IK10		
Lens Material	Polycarbonate		
Wiring	One access cover standard, two for through wiring		
Cable entries	4 x M20 - 2 at each end (standard,other optional)		
Termination	L,L1,L2,L3,N,PE; each Terminal 2x6mm² max		
Mounting	Ceiling (Flush mount), Wall, Suspended (Chain /Eyebolt), Pole		

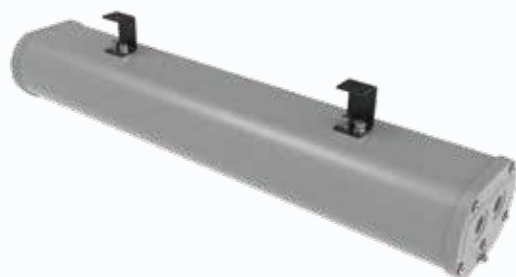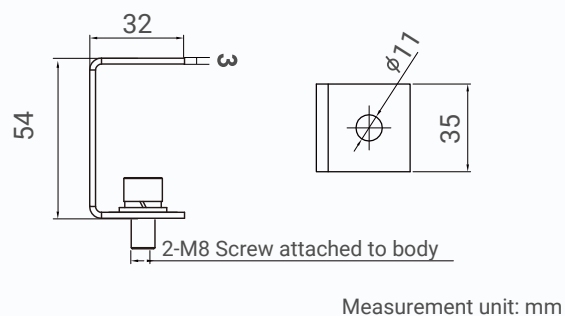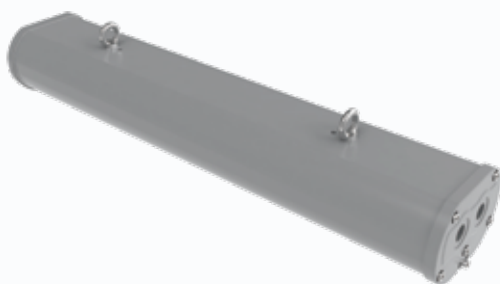# Mounting

Low Ceiling Mount Bracket

Ordering Code: CB-L1

178
2.5
18
M8 Screw attached to body
Ø9
17
23
20
11
11
157
Measurement unit: mm

High Ceiling Mount Bracket

Ordering Code: CB-H1

32
3
ø17
54
35
2-M8 Screw attached to body
Measurement unit: mm
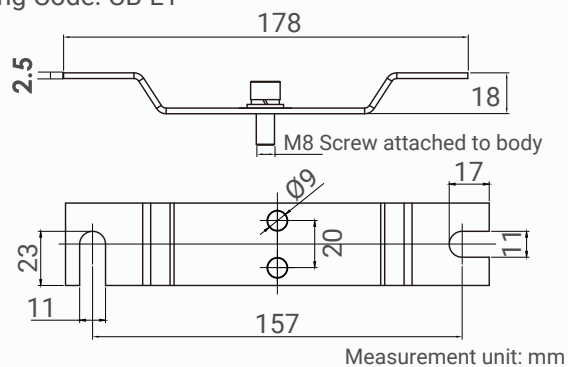
Eyebolt Mount

Ordering Code: EB-1

ø35
ø21
ø7
56
16
M8 Screw attached to body
Measurement unit: mm
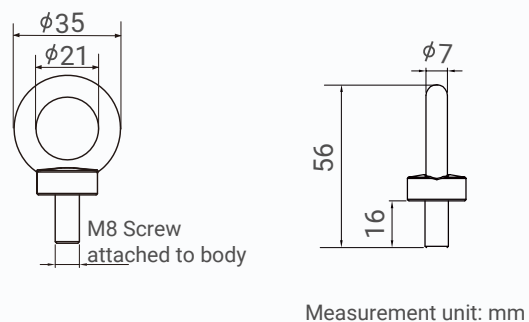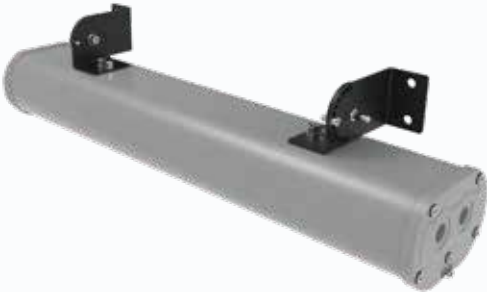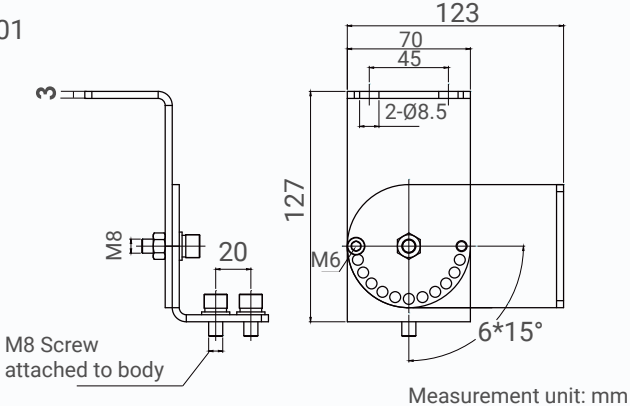
Mounting

Wall Mount Swivel Bracket

Ordering Code: WB-01

123
70
45
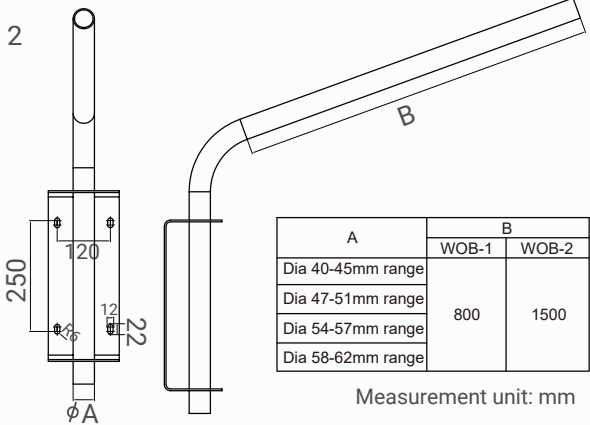2-Ø8.5
127
3
M8
20
M6
6*15°
M8 Screw
attached to body
Measurement unit: mm

Wall mounting outreach bracket
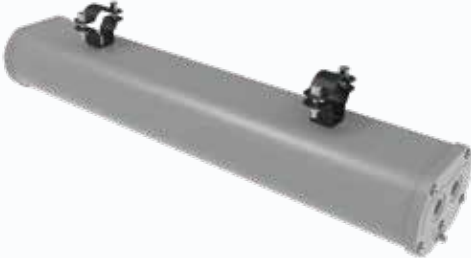
Ordering Code: WOB-1/ 2

250
120
12
22
øA
B
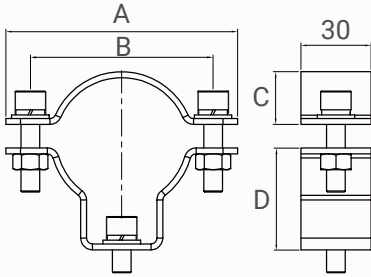
	A	B	
		WOB-1	WOB-2
	Dia 40-45mm range		
	Dia 47-51mm range	800	1500
	Dia 54-57mm range		
	Dia 58-62mm range		

Measurement unit: mm

Pole Mount Clamp

Ordering Code: PC-48/60

A
B
30
C
D

Code	Description	A	B	C	D
PC-48	Dia 40-51mm range	92	72	18	42
PC-60	Dia 54-62mm range	105	84	28	46

Measurement unit: mm

Through Wiring

In-out connection can be made on one or both sides for quick installtion

On both ends of the connection

On end of the wire

Measurement unit: mm
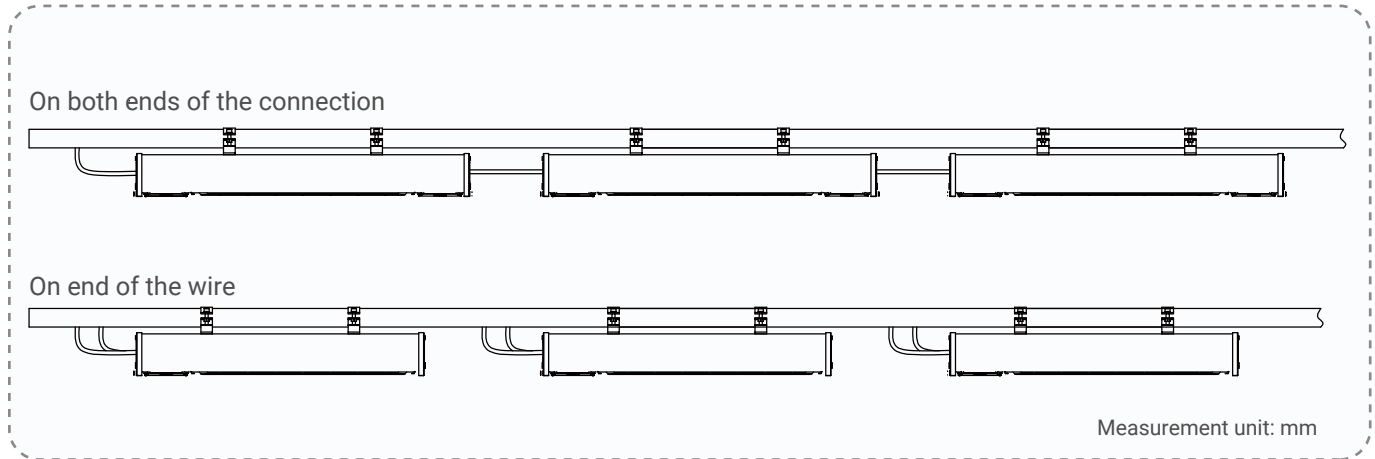
Photometric

110 Degree

0
900
1800
2700
3600
4500
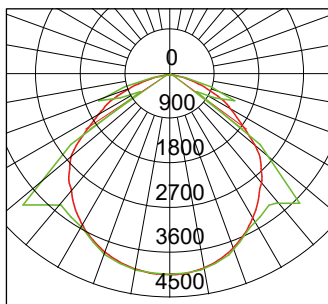
— V 0.0DEG PLAN,112.1
— H 0.0DEG PLAN,109.1

Ordering Information and Mounting Accessories

LLP	—	60	—	120-277	—	5K	—	X1	—	CP	—	1A	—	EM12	—	M25
Fixture		Wattage		Voltage		CCT		Rating		Lens		Wiring		Battery		Cable Entries
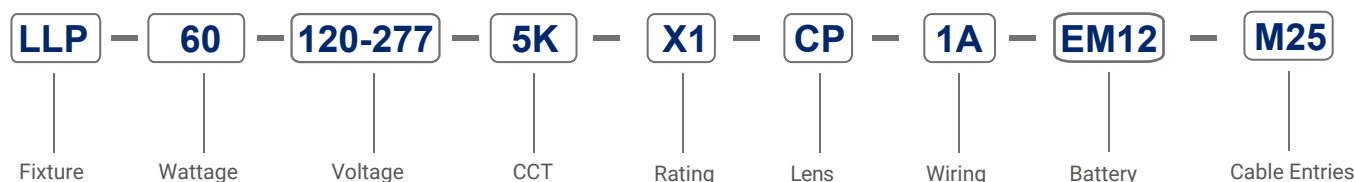
Fixture	Wattage	Voltage	CCT	Rating
LLP	20 - 20W 40 - 40W * 60 - 60W 80 - 80W 100 - 100W	120-277- AC120-277V	57K - 5700K 5K - 5000K 4K - 4000K 3K - 3000K RD-Red GN-Green BU-Blue AM-Amber	X1 - Zone1, 21

Lens	Wiring	Battery	Cable Entries
CP - Clear PC DP - Diffuse PC	1A - Single Access 2A - Dual Access	BLANK - Standard (Non Emergency) EM6 - 6W 180mins EM12 - 12W 90mins (Emergency Standard)	M20 - 4 X M20 X 1.5 (Standard) M25 - 4 X M25 X 1.5 N12 - 4 X NPT 1/2 N34 - 4 X NPT 3/4

*please speficy if single or double Lens

ACCESSORIES

CB-L1=Low Ceiling Mount Bracket 1 pair
CB-H1=High Ceiling Mount Bracket 1 pair
EB-1=Eyebolt 1 pair
WB-01=Wall Mount Swivel Bracket 1 pair
WOB-1=0.8M wall mounting outreach bracket x1
WOB-2=1.5M wall mounting outreach bracket x1
PC-48=Dia 40-51mm range SS316 pole clamp 1 pair
PC-60=Dia 54-62mm range SS316 pole clamp 1 pair
SC05=3ft. safety Cable kit
R-D40=Replacement Driver x1 (20~40W models)
R-D60=Replacement Driver x1 (50~60W models)
R-D100=Replacement Driver x1 (70~100W models)
R-T=Replacement PC Lens, clear x1
R-F=Replacement PC Lens, frosted x1
R-B=Replacement Battery Pack x1

INSTALLATION TIPS

1.Wago Termination
Conductor range: 0.5 … 4 (6) mm² (20 … 10 AWG)
Rated voltage: 800 V
Rated current/(max. current): 32 A (41 A)

2.Cable gland & Plug
Standard: Plastic plugs x1 + Plastic Cable gland x1
            for 1AC= Single Access Cover
Standard: Plastic plugs x3 + Plastic Cable gland x1
            for 2AC= Dual Access Cover
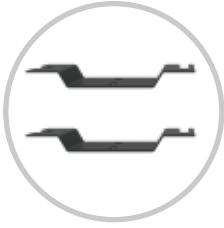Optional: Contact sales for other selections

3.Dimming
Standard: 0-10V Dimming (10-100%)

4.Emergency
Auto self-diagnostics function applied
minimum 30 seconds test once a week to verify
the status as per LED indicator

CB-L1

Low Ceiling Mount
Bracket 1 pair

CB-H1
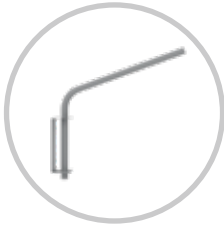
High Ceiling Mount
Bracket 1 pair

EB-1

Eyebolt 1 pair

WB-01

Wall Mount Swivel
Bracket 1 pair

WOB-1/2

wall mounting
outreach bracket x1

PC-48/60

SS316 pole clamp 1 pair

SC05

Stainless Steel
Safety Cable kit

R-D40/D60/D100

Replacement Driver x1

R-T

Replacement PC Lens,
clear x1

R-F

Replacement PC Lens,
frosted x1

R-B

Replacement Battery Pack x1