

Railways Specific Lights from Sigma

Ever since LED lights have come on the scene, the Railways have been on the look out for high intensity long range LED lights to economically illuminate their Marshalling Yards & working places meeting the laid down requirements. Sigma also offers job specific lights for various services at Railways.

Yard Lighting

◆ Problem identification

To illuminate marshalling yards, lights have to be fitted on Lighting Mast towers of suitable height in such a way that wide area from close to the tower be uniformly illuminated because most of the towers are installed close to the rail tracks. Rail tracks are in fact the ones which require good illumination,

Lighting should be such that engine drivers can shuttle around without facing glare and resultant obstructions.

◆ Sigma recommends

Sigma have developed weather, dust & vermin proof, high intensity 350 watt and 200 watt long Range flood lights for use at High Masts installed at Marshalling Yards.

Sigma 350 watt long Range LED light have a range of 750 meters. It produces 10 lux illumination at a distance of 250 meters when measured along the axis.

Sigma can offer these lights with vibration isolators to prevent damage to luminaires from vibrations associated with the running of trains.

These lights can economically illuminate Railways Marshalling yards and working places.



350 Watt



200 Watt



High Mast

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

Hydrant Lights

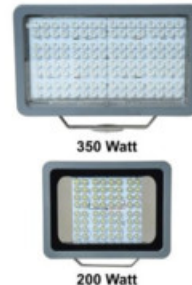
◆ Problem identification :

Hydrants are installed between two rail tracks which are normally illuminated from the lights of adjoining platforms. When both the rail tracks are occupied with trains the light from platforms is blocked. The workmen who supply water to trains find it difficult to discharge their duties effectively in the darkness.

Due to heavy vibrations associated with the running of the trains the lamps fitted with the lights in use at present fuse very frequently.

◆ Sigma recommends

Sigma offer Long range, high intensity, vibration proof 200 watt / 350 watt LED flood lights for illuminating hydrants when fitted on foot over bridges on both sides of the platform.



Platform Lighting

◆ Problem identified

Illumination of platforms have been divided into three categories A, B & C.

“A” category platforms are those which cater to heavy passenger traffic. These platforms should be illuminated in such a way that a minimum of 50 lux illumination is available uniformly on the entire platform. It is also required to ensure that minimum 30 lux illumination is available on the train bogies when the train is standing at the platform so that reservation charts can easily be read by the passengers without straining their eyes.

“B” category platforms are those which cater to medium passenger traffic. These platforms should be illuminated in such a way that a minimum of 40 lux illumination is available uniformly on the entire platform. It is also required to ensure that minimum 30 lux light is available on the train bogies when the train is standing at the platform so that reservation charts can easily be read by the passengers without straining their eyes.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

“C” category platforms are those which cater to lower passenger traffic. These platforms should be illuminated in such a way that a minimum of 30 lux illumination is available uniformly on the entire platform. It is also required to ensure that minimum 20 lux light is available on the train bogies when train is standing at the platform so that reservation charts can easily be read by the passengers without straining their eyes.

Clear light form LED lights is preferred over yellow light of sodium lamps for covered platforms. For open platforms both yellow and clear light can be used.

Since the height available for fitment of lights is maximum 5 meter the luminaries should be dust, moisture and insect proof and should produce glare free wide spread illumination. The design of luminaries should be such that they do not strain the eyes of the passengers due to glare.

Another area which needs immediate attention is the Name Boards of platforms which due to improper illumination cannot be identified in the dim light and cause considerable hardship to the passengers who are unable to know the station they are passing and as such are unable to know the time required to reach their destination station. More so when the trains are not on time and referring to their watch is of no help.

The enclosure for reservation charts at the platforms require very good illumination so that passengers can read the reservation charts without straining their eyes.

◆ **Our Recommendations**

Sigma after great deal of Research and Development have successfully developed LED fittings, illumination from which produce wide spread and are insect dust & moisture proof and meet all the requirements as laid down above. The exclusive use of Metal Halide lamps is not recommended for use for platform lighting because the metal halide lamps do not re-ignite until they are fully cooled. Should there be a sudden power failure at the time when train steams in or off it can cause chaos. A mixture of Lowbay lights with LED lamps with eco-friendly electronic ballast are an ideal choice for platform illumination.

◆ **For covered Platforms**

- ◆ 70 watt dust, moisture and insect proof Sigma Lowbay LED lights with integral control gear.
- ◆ 150 watt dust, moisture and insect proof Sigma Lowbay LED light with integral control gear.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

◆ 40 watt LED moisture and insect proof Sigma Lowbay LED light with integral control gear.



150W LED Bay Light

70W LED Bay Light

◆ 30 watt dust, moisture and insect proof Sigma Lowbay LED light with integral control gear.



40W LED Bay Light

30W LED Bay Light

◆ **For open Platforms**

◆ 70 watt dust, moisture and insect proof Sigma LED Flood light with integral control gear.



70W LED Flood Light



150W LED Flood Light

◆ 150 watt dust, moisture and insect proof Sigma LED Flood light with integral control gear.

◆ 40 watt dust, moisture and insect proof Sigma LED Flood light with integral control gear.



40W LED Flood Light



30W LED Flood Light

◆ 30 watt dust, moisture and insect proof Sigma LED Flood light with integral control gear.

◆ 70 watt dust, moisture and insect proof Sigma LED street light.



70W LED Street Light



150W LED Street Light

◆ 150 watt dust, moisture and insect proof Sigma LED street light.



40W LED Street Light



30W LED Street Light

◆ 40 dust, moisture and insect proof Sigma LED street lights.

◆ 30 watt dust, moisture and insect proof Sigma LED street Light.

◆ **For Platform Name Boards**

◆ 30 / 40 watt dust, moisture and insect proof Sigma LED Flood Light with stainless steel reflectors and eco-friendly electronic ballasts.

◆ **For Reservation Chart Boards**

◆ 30 watt LED Long Range Lights and eco-friendly electronic ballasts.

TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

Washing Lines

◆ Problem identifications

Illumination of washing lines is the greatest challenge because of the safety requirements involved. Washing lines at major Railway stations are classified into two categories,

- ◆ Open area washing Line
- ◆ Underground washing lines

The luminaries required at washing lines should be absolutely watertight lest the water enters into the fitting and cause disaster. To properly wash the under carriage of the train low voltage (24 volt) water tight luminaries should be used.



For underground washing lines only low voltage watertight lights should be used.

◆ Sigma recommendations

150-watt 200 watt/350 watt high intensity, long range LED flood lights for open Area washing Lines. Wattage selection will depend on the length of the rack. 24 volt 40/60 watt high intensity long range Low voltage lights for under carriage should be used.

Sigma offer high intensity low voltage long range watertight LED lights for underground Washing lines. These are 20 watt /40 watt /60 watt /100 watt these are operable from 24 volt / 48 volt supply.



TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

Relief Train & 142T crane lights

The luminaries for relief train are the biggest challenge for the Railways today to which they have not been in a position to overcome successfully.

The luminaries to be used at the accident site can get power from the generating sets or batteries available on the relief train. The luminaries are required to be high intensity long range type which can provide sufficient illumination at the accident site from a distance because electrical bogie of the relief train may not be in a position to reach close to the accident site.

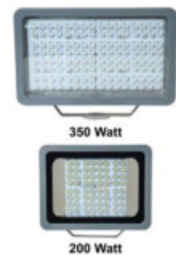
Telescopic towers fitted with long range high intensity flood lights cannot be used because of over head wires. Light weight Tripod stands on which at least 2 long range flood lights can be fitted is another basic requirement.

Portable flood lights operable from 24/48 volt which can provide sufficient illumination would also be preferred for safety requirements at the accident site during the inclement weather.

142 Ton cranes which are part of the relief trains get handicapped for want of long range lights producing good illumination at the accident site.

◆ Sigma recommendations

- ◆ Sigma offers 350 watt 300 Watt & 200 watt long Range LED lights suitable for operation on supply from mains / gensets. These can be supplied with suitable tripod stand of one meter length.
- ◆ Sigma offer portable Remote Area lighting system having high intensity, long range LED flood lights backed up by rechargeable lithium phosphate batteries. These are available with one, two or 4 lights of 40 watt LED lights. The system have stands of 2 /3 /4/5 meter long telescopic tilting type self supporting stands.



TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

- ◆ Low voltage lights fitted on tripod stands operable on battery supply from the relief train batteries.
- ◆ 24 volt 100 watt, 60 watt or 40 watt long range high intensity lights for 142 ton cranes.



Over Head Maintenance Car / Tower van lights

◆ Problem identification :

For maintenance of which lines the overhead Car / Tower van require specific lights which should be in a position to provide upward illumination for the overhead lines. They also require long range lights which can illuminate the near by portals. In addition they require long range lights to be fitted on both sides for illuminating the tracks. The lights should naturally be water dust and vermin proof and should produce high intensity and long range. Low voltage lights should be preferred.

◆ Sigma recommends

- ◆ Sigma recommends low voltage long range 40 / 60 watt LED flood lights for maintenance of overhead wires lines.
- ◆ 150 watt 230 volt long range LED lights for illuminating the nearby portals.



TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

- ◆ 100 watt 230 volt long Range lights for use as a headlight to be fitted on both sides of the Van / Tower.

Train Lighting

◆ Problem Identification

The train coaches at present are being illuminated either with incandescent lamps or with fluorescent tubes. The illumination from incandescent lamps varies with the speed of the train and as such when the train is moving slow the light is not sufficient for reading. The problem with fluorescent tubes is that the decay in illumination is very fast and after sometime the illumination available is not sufficient. Further more this insufficient illumination from the fluorescent lamps have side-effects on the human body and causes fatigue and tiredness as have been established during a study in England.

◆ Our Recommendations

We recommend that where ever possible glare free indirect lighting should be provided in the coaches. Alternately luminaries with compact fluorescent lamps and eco-friendly electronic ballast should be used.

- ◆ 30 / 40 watt LED ceiling light suitable for operation on 110 volts AC / DC supply
- ◆ 5 watt LED reading lights for AC coaches

Cabin Lights

◆ Problem identification

The persons working at the cabins have a very tough duty to perform because a slight mistake on their part can result in in accidents. Very high intensity long range lights are required by them for

- ◆ Last number recording.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

P-27, Sagar Manna Road, Kolkata 700 060, Ph. : (033) 2406 1721, 2406 0058,
Mobile : 94330 15081, E-Mail : energy@sigma-lights.co.in
Works : Plot A3 & A4, Sector III, Falta Industrial Growth Centre, Falta 743504
Website : www.sigma-lights.co.in, CIN No. U32109WB1992PLC056871

- ◆ To see the intersection point of lines close by to ensure that the train A have fully crossed over the point and that train can be allowed to pass
- ◆ The name of the cabin is not illuminated properly due to which passengers cannot read the name of the approaching station.
- ◆ **Sigma recommends**
 - ◆ 150 watt high intensity long range flood light for illuminating the lines intersecting area.
 - ◆ Low voltage 60 /100 watt high intensity long range portable / swivel type LED flood light operable from 24 volt supply for last wagon number checking. This can also be used for checking the intersecting lines
 - ◆ 20 watt water tight high intensity bulk head LED light for illuminating the name of the cabins.



230 Volt 150 Watt



24 Volt, 100 Watt



24 Volt, 60 Watt



230 Volt, 20 Watt

Under Carriage Examination

◆ Problem identification

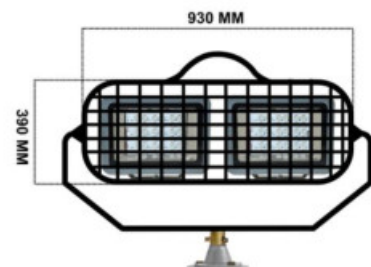
When the train steams into the platform its under carriage is examined while it is in motion. Very high intensity lights are required for doing the job effectively.

At present at some places 2 no 40 watt fluorescent tube lights in an enclosure are installed close to the rail track at a place where the platform ends. These lights do not produce sufficient directional light for effectively doing the under carriage examination. At some places still portable hand lamps are used which not only get easily damaged but are not effective also. Some places standard HPSV lamp flood lights are used

◆ Sigma recommends

Sigma recommends use of 2x100 watt high intensity long range directional LED lights housed in an enclosure having net jali in front. These lights can be permanently fitted close to rail tracks out side the platforms, The construction of these lights is portable. These lights have both vertical and horizontal movement. Modification for improvement

Under - Carriage Inspection Light



TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

P-27, Sagar Manna Road, Kolkata 700 060, Ph. : (033) 2406 1721, 2406 0058,
Mobile : 94330 15081, E-Mail : energy@sigma-lights.co.in
Works : Plot A3 & A4, Sector III, Falta Industrial Growth Centre, Falta 743504
Website : www.sigma-lights.co.in, CIN No. U32109WB1992PLC056871

of design or performance can be incorporated as per recommendation of the users.

Engine Head Lights

◆ Problem Identification

Reflectors of Engine Head Lights in use at present are made of aluminum which lose their shine very fast due to the heat of the projector lamps and result in low intensity light coming out of the headlights causing strain to the drivers in operating the train.

◆ Our Recommendations

We can supply highly polished stainless steel parabolic reflectors to replace the existing aluminum reflectors for lasting performance. Effective head Lights for Railway engines is under development.

Low voltage Pit Lights, Food Lights, Inspection Search Lights & Hand Lamps

◆ Problem Identification

Pits at loco sheds require low voltage lights because of the safety requirements. Lights can only be fitted on side walls absolutely recessed. These lights should produce light going to the top so that underneath of the engine get sufficient light for ease of repairs.

At present low voltage hand lamps are used. This requires the services of an additional person who can show the light to the working mechanic. Alternately, the mechanic carries the light in one hand and works with the other which retard the efficiency of work.

◆ Our Recommendations

Specially designed 40 watt recessed type Sigma LED lights can effectively do the job. Sigma portable and swiveling type 24 volt 100 watt inspection lights with magnetic base can eliminate the requirement of a second person for showing the light or allow the mechanic to work freely with both hands.

- ◆ 40 watt recessed bulkhead light with faceted reflector and suitable for operation on 24 volt supply.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

- ◆ 2 x 20 watt 24 volt portable and swiveling type Inspection light with magnetic base.
- ◆ 2 x 20 watt LED Lights on portable stand.

Emergency lighting box

◆ Problem identification

The one equipment that need immediate attention of the Railways and which have a great bearing on the safety and security of general public is the emergency lighting Box

The present box is steel trunk box with 2 meter tripod stand and 2 no 24 volt lights. The problem with this Equipment is that

- ◆ It is heavy to carry from one place to another.
- ◆ 80% of the equipment does not work at the time of need. It takes minimum 20/30 minutes to open and operate the system by which time the very purpose of the equipment requirement is lost at times.

◆ Sigma recommendations

Sigma offers light weight emergency lighting box complete with 2 nos of 24 volt 40 watt high intensity, long range battery operated lights backed up by rechargeable lithium phosphate batteries providing two hour back up and 2 meter telescopic tilting stand fitted to the box



TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

Workshops, Sheds and Overhead Cranes

◆ Problem Identification

While illuminating the Workshops & open areas outside the workshops it is observed that inspite of fitting large number of high bay lights inside, the required lux level of minimum 250 lux at the floor level is not available mainly due to height of the workshops as well as fast decay in Illumination due to deterioration of reflecting surfaces of the luminaries.

Non availability of good light at the floor level causes production losses.

Due to jerks and vibrations associated with working of overhead cranes lamps fuse very frequently.

◆ Our Recommendations

For inside workshops our Highbay and lowbay lights provide uniform wide spread of Illumination & sustained lasting performance.

For overhead cranes, Sigma lights with specially designed vibration isolators are highly useful.

Our flood lights are high intensity, long range type having sustained lasting performance due to highly polished stainless steel reflectors have proved economical and useful for open areas outside the Workshops. These flood lights can be fitted on Sigma telescopic tilting type towers

◆ We recommend the following Sigma luminaries.

- ◆ 400 watt high intensity LED high bay lights for inside lighting of workshops.



400 Watt High Bay Lights



250 Watt High Bay Lights

- ◆ 250 watt high intensity LED high bay lights for workshop Inside' lighting.

- ◆ 150 watt high intensity LED high bay lights for workshop inside lighting.



150 Watt High Bay Lights



70 Watt Bay Lights

- ◆ 70 watt / 250 watt / 150 watt Lowbay LED light for workshop columns for patch lighting and for illumination of stores.

TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

P-27, Sagar Manna Road, Kolkata 700 060, Ph. : (033) 2406 1721, 2406 0058,
Mobile : 94330 15081, E-Mail : energy@sigma-lights.co.in
Works : Plot A3 & A4, Sector III, Falta Industrial Growth Centre, Falta 743504
Website : www.sigma-lights.co.in, CIN No. U32109WB1992PLC056871

- ◆ 400 watt long range LED flood lights for open places outside the Workshops.
- ◆ 250 watt long range LED flood lights for open places outside the Workshops.
- ◆ 150 watt long range LED flood lights for open places outside the Workshops.
- ◆ 24 Volt 30 watt / 40 watt LED lights for emergency lighting of workshops.



◆ For Over head Cranes

- ◆ 150 watt high intensity LED lights with specially designed vibration isolators and integral C. G. boxes.

Maintenance Lights in cluding under carriage maintenance at pits

◆ Problem identified

The basic requirement of maintenance lights is that they should be low voltage to prevent shock and electrocution. It would be preferred if lights allow hands free operation like lights with magnetic base that they can get stuck to the place of work and allow hands free operation. Small self-supporting stands can be provided with the lights to have hands free operation. For pits at loco sheds only low voltage lights are permitted because of safety requirements. The lights are to be fitted recessed to the walls in such a way that these produce light going to the top so that underneath of the engine or under carriage gets sufficient light for ease of maintenance.

At present low voltage hand lamps are used. This requires the services of an additional person to show the light to the working mechanic. Alternately the mechanic takes light in one hand and works with the other hand which retards the efficiency of work.

◆ Sigma offers

- ◆ 24 volt 20 watt high intensity long range inspection lights.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

P-27, Sagar Manna Road, Kolkata 700 060, Ph. : (033) 2406 1721, 2406 0058,
Mobile : 94330 15081, E-Mail : energy@sigma-lights.co.in
Works : Plot A3 & A4, Sector III, Falta Industrial Growth Centre, Falta 743504
Website : www.sigma-lights.co.in, CIN No. U32109WB1992PLC056871

- ◆ 24 volt 20 w for use long range inspection lights with magnetic base for inspection of under carriage of stationery trains.
- ◆ 24 volt 20 watt long range inspection lights with small self supporting stand for use at pits to provide sufficient lights upwards for maintenance of underneath of the Engine.
- ◆ Specially designed 20 watt / 40 watt 24 volt recessed light that can be fitted to the sides of the pit and provide light upwards for under carriage illumination.
- ◆ Lights referred at a to c above with inbuilt 24 volt lithium phosphate batteries



Safety - To meet the safety requirements the Sigma LED Light fittings are designed with 4 layers of protection i.e. Over Voltage, Over Current, Over Temperature and Short Circuit

Approvals - Our LED lights have mandatory BIS approval.

We use our LED lights on 60% capacity to enhance their working life

Workshop Lighting

◆ Problem identification

It is essential that shadow free lighting is ensured both inside and outside the workshops

◆ Our Recommendations

Our high intensity long range lights having lasting performance when fitted on our high mast towers are used for illuminating outside the workshops.

For inside the workshops high intensity LED high-bay lights with uniform wide spread are recommended.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

High intensity highway lights with especially designed vibration isolators are used on overhead cranes.

24 volt 20 watt high intensity LED lights for use as emergency lights.

◆ **We recommend the following Sigma luminaries.**

- ◆ 350 watt high intensity long range LED flood lights for open area outside workshops.
- ◆ 250 watt high intensity long range LED flood lights for open area outside workshops.
- ◆ 150 watt high intensity long range LED flood lights for open area outside workshops.
- ◆ 600 watt high intensity LED high-bay lights with uniform spread for inside the workshops.
- ◆ 400 watt high intensity LED high-bay lights with uniform spread for inside the workshops.
- ◆ 250 watt high intensity LED high-bay lights with uniform spread for inside the workshops.
- ◆ 150 watt high intensity long range flood lights for columns of workshops with a facility for operation from ground level.

◆ **For Overhead Cranes**

- ◆ 150 watt high intensity LED light with especially designed vibration isolators for Overhead Cranes.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

◆ **Emergency lighting System**

- ◆ 24 volt high intensity 20 watt LED light for use as emergency system.
- ◆ 24 volt high intensity 40 watt LED light for use as emergency system.



350W LED Long
Range Flood Lights



250W LED Long
Range Flood Lights



150W LED Long
Range Flood Lights



600W LED Highbay
Lights



400W LED Highbay
Lights



250W LED Highbay
Lights



150W LED Long
Range Flood Lights



40W LED Deck
Head Light



20W LED Deck
Head Light



24V 20W LED Light



24V 40W LED Light



150W LED Security
Search Lights

TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

Street Lighting

◆ Problem identification

The street lights are faced with a problem that light from lamps do not get reflected out fully and dust and insects entering inside the fittings make them redundant. By introducing pot optics for street lights the manufacturers have made a good effort to have better light output but high heat of the lamps wear out the shine from the reflectors greatly affecting their efficiency.

◆ Our Recommendations

Sigma have developed high intensity LED street lights with wide spread sustained lasting performance. Sigma ensures that dust moisture and insects do not enter the fitting.

We offer the following LED street lights for application at different areas in the mines/projects.

- ◆ 60 watt high intensity street light with wide spread.
- ◆ 80 watt high intensity street lights with wide spread.
- ◆ 120 watt high intensity street lights with wide spread.
- ◆ 30 watt solar powered street lights



60W LED Solar Street Lights



30W LED Solar Street Lights



20W LED Solar Street Lights



60W LED Street Lights



80W LED Street Lights



120W LED Street Lights

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

Name boards & safety slogans illumination

◆ **Problem identification**

For effective illumination of name boards and safety slogans low wattage Lights with wide spread are required.

◆ **Our Recommendations**

The following Sigma lights fully meet these requirements

- ◆ 40 watt high intensity LED light having wide spread.
- ◆ 30 watt high intensity LED light having wide spread.



40W LED Wide Spread
Flood Lights



20W LED Wide Spread
Flood Lights

Facial illumination of building

◆ **Problem identification**

For facial illumination the lights should uniformly illuminate the building from bottom to top.

◆ **Our Recommendations**

- ◆ We recommend our high intensity LED lights with long range and wide spread.

TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

P-27, Sagar Manna Road, Kolkata 700 060, Ph. : (033) 2406 1721, 2406 0058,
Mobile : 94330 15081, E-Mail : energy@sigma-lights.co.in
Works : Plot A3 & A4, Sector III, Falta Industrial Growth Centre, Falta 743504
Website : www.sigma-lights.co.in, CIN No. U32109WB1992PLC056871

- ◆ 600 watt high intensity LED light having a combination of long range and wide spread
- ◆ 350 watt high intensity LED light having a combination of long range and wide spread.
- ◆ 350 watt high intensity LED light having a combination of long range and wide spread.
- ◆ 350 watt high intensity LED light having a combination of long range and wide spread
- ◆ 250 watt high intensity LED light having a combination of long range and wide spread
- ◆ 150 watt high intensity LED light having combination of long range and wide spread.



600W LED Long
Range & Wide Spread
Flood Lights



350W LED Long Range
& Wide Spread Flood
Lights



250W LED Long Range
& Wide Spread Flood
Lights



150W LED Long Range
& Wide Spread Flood
Lights

Sub Station Lighting

◆ Problem identification

While illuminating Sub Stations it is essential that in addition to general requirements for illumination shadow free lighting is ensured.

◆ Our Recommendations

We have high intensity long range LED lights with proven lasting performance have proved economical & useful for Sub Station Lighting. We have Lighting Mast Towers of suitable heights for fitment of these lights.

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

◆ **We recommend the following Sigma luminaries.**

- ◆ 600 watt long range high intensity LED flood lights
- ◆ 350 watt long range high intensity LED flood lights
- ◆ 150 watt high intensity LED flood lights for patch Lighting
- ◆ 70 watt high intensity LED flood lights for patch Lighting
- ◆ 20 / 40 watt high intensity LED cabin lights for panel booms



600W LED Long Range
Flood Lights



350W LED Long Range
Flood Lights



150W LED Long Range
Flood Lights



70W LED Long Range
Flood Lights



20 / 40W LED Cabin
Lights



Remote Area Lighting
System



Remote Area Lighting
System



7 Meter Mobile Lighting
Tower

TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

Security Search lights

◆ Problems identification.

Normal human eye can clearly see targets upto 500 meters in day light. It is therefore desirable that intensity of Security Search lights should be such that are security person should be in addition position to see targets at a distance of 400 meters with the naked eye or 700 meters with binoculars.

Next comes the problem of insects invading the watch towers as soon as Search lights are switched on.

Where the size of the watch tower cabin is more than 2 meters the security person finds it difficult to aim the search light close to the base of the watch tower.

Another important requirement that is gaining ground is the security persons should operate from a watch tower kept in the dark while the Search lights are fitted on a distant tower and operate the Search light with a remote control from the watch tower kept in the dark.

Security person feels handicapped when the Search light is fitted inside the watch tower because when the search lights is switched 'ON' the whole cabin gets lighted due to which the outside visibility of the security guard is impaired. It is similar to the experience with the cabin light of a Car which have to be switched off while driving the car at night.

◆ Our Recommendations

We at Sigma have clearly understood these functional problems and designed and developed Search lights that meet these requirements. We basically have 6 type of Search Lighting systems.

1. That can be fitted on top of the watch tower and operated from inside the cabin of the Tower so that security man is protected from invading insects.
2. That a distance piece is provided with the search light fitted on the top of the watch tower for enabling the security person to aim close to the watch tower and also to protect him from invading insects while operating the search light from inside the cabin of the watch tower.
3. That can be fitted inside the watch tower where it is difficult to install or maintain the search light on the roof of the watch tower mainly due to its

TELESCOPIC TOWERS ● ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060

P-27, Sagar Manna Road, Kolkata 700 060, Ph. : (033) 2406 1721, 2406 0058,
Mobile : 94330 15081, E-Mail : energy@sigma-lights.co.in
Works : Plot A3 & A4, Sector III, Falta Industrial Growth Centre, Falta 743504
Website : www.sigma-lights.co.in, CIN No. U32109WB1992PLC056871

shape. A movable stand with Castrol wheels is provided to enable the search lights to be towed to close to the windows of the cabin to have better view of the outside thus overcoming the problem of impaired visibility.

4. That can be fitted on nearby lights tower and operated from inside the cabin of the watch tower with remote control. This is to protect the security man from being the soft target of militants.
5. Motor operated search lights that can be fitted on top of the watch towers and operated from inside the cabin of watch tower.
6. That can be hand held with inbuilt batteries or vehicle mounted that can be operated from the batteries of the vehicle. These are of great help while chasing a culprit because one can focus the light on him even when he goes out of the range of the jeep headlights.

The LED search lights operable from 240 Volt AC or 110 Volt DC or 24 Volt DC are available.

600 watt high intensity long range search light.

350 watt high intensity long range search light.

250 watt high intensity long range search light.

150 watt high intensity long range search light.



600W LED Search
Lights with Tripod
Stand



350W LED Search
Lights with Tripod
Stand



250W LED Search
Lights with Tripod
Stand



150W LED Search
Lights with Tripod
Stand

TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060



150 - 600W LED Search
Lights with Cabin Control
Arrangement



150 - 600W LED
Motorised Search
Lights



150 - 600W LED
Motorised Search
Lights



150 - 600W LED Search
Lights with Cabin Control
Arrangement



150 - 600W LED
Search Lights with
Tripod Stand



150 - 600W LED
Search Lights with
Distance Piece

TELESCOPIC TOWERS • ENERGY SAVING LED & HID LUMINAIRES & FIXTURES

with highly polished Stainless steel reflectors having sustained lasting performance for Mining, Industrial, & Commercial applications, Telescopic & Tilting Towers both Ground & Mobile Trolley / Skid mounted.
REGD. OFFICE : P - 27 SAGAR MANNA ROAD, KOLKATA 700 060