

CUSTOMER: 		TELANGANA STATE POWER GENERATION CORPORATION LTD TELANGANA, INDIA 5 x 800 MW YADADRI TPS																								
OWNER'S CONSULTANT: 		TATA CONSULTING ENGINEERS LTD BANGLORE INDIA																								
		BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA																								
		PYROTECH ELECTRONICS PRIVATE LIMITED																								
TITLE LIGHTING DESIGN & LIGHTING LAYOUT OF PLANT ROADS (PEM SCOPE)		<table border="1"> <thead> <tr> <th>DEPT CODE</th> <th>NAME</th> <th>SIGN</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td rowspan="4">E</td> <td>DRN</td> <td>R.P.</td> <td>-SD-</td> <td>12.01.2023</td> </tr> <tr> <td>DESN</td> <td>R.P.</td> <td>-SD-</td> <td>12.01.2023</td> </tr> <tr> <td>CHD</td> <td>R.S.</td> <td>-SD-</td> <td>12.01.2023</td> </tr> <tr> <td>APPD</td> <td>R.S.</td> <td>-SD-</td> <td>12.01.2023</td> </tr> </tbody> </table>				DEPT CODE	NAME	SIGN	DATE	E	DRN	R.P.	-SD-	12.01.2023	DESN	R.P.	-SD-	12.01.2023	CHD	R.S.	-SD-	12.01.2023	APPD	R.S.	-SD-	12.01.2023
DEPT CODE	NAME	SIGN	DATE																							
E	DRN	R.P.	-SD-	12.01.2023																						
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SHEET 1 OF 32		DRAWING NO. PE-VO-417-558-E225																								
SCALE 		REV. 02																								

5 X 800 MW YADADRI TPS

ROAD LIGHTING : 2x5M WIDE ROAD +1.5M MEDIAN

VENDOR : PYROTECH ELECTRONICS PVT LTD

PROJECT : 5 X 800 MW YADADRI TPS

CLIENT : TELENGANA STATE POWER GENERATION CORPORATION LTD
BHEL NO : PE-V0-417-558-E225 -Revision

Date: 02.02.2023

Operator: MIKA ENGINEERS
DESIGN VETTED BY PYROTECH ELECTRONICS PVT. LTD.



Operator
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e-Mail

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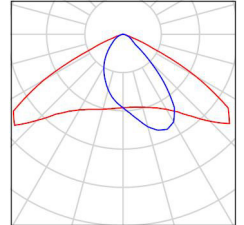


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5 X 800 MW YADADRI TPS / Luminaire parts list

14 Pieces Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street
Light, Model No.: PE-11-D-L-WXOA
Article No.:
Luminous flux (Luminaire): 22912 lm
Luminous flux (Lamps): 22912 lm
Luminaire Wattage: 196.4 W
Luminaire classification according to CIE: 100
CIE flux code: 52 91 99 100 100
Fitting: 1 x 230Vac 50Hz, 200W (Correction
Factor 1.000).

See our luminaire
catalog for an image of
the luminaire.





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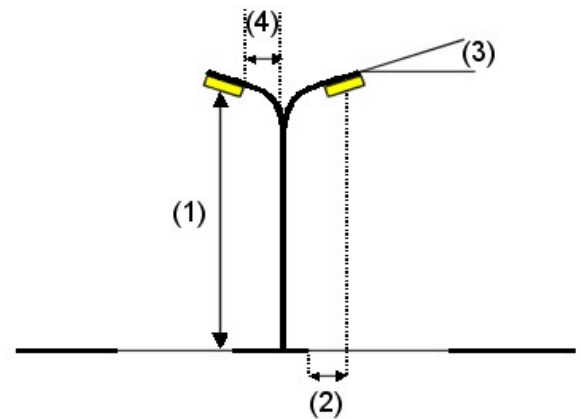
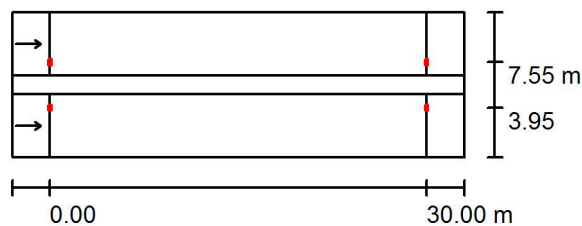
Street 1 / Planning data

Street Profile

Roadway 2 (Width: 5.000 m, Number of lanes: 1, tarmac: R3, q0: 0.070)
Median 1 (Width: 1.500 m, Height: 0.000 m)
Roadway 1 (Width: 5.000 m, Number of lanes: 1, tarmac: R3, q0: 0.070)

Light loss factor: 0.55

Luminaire Arrangements

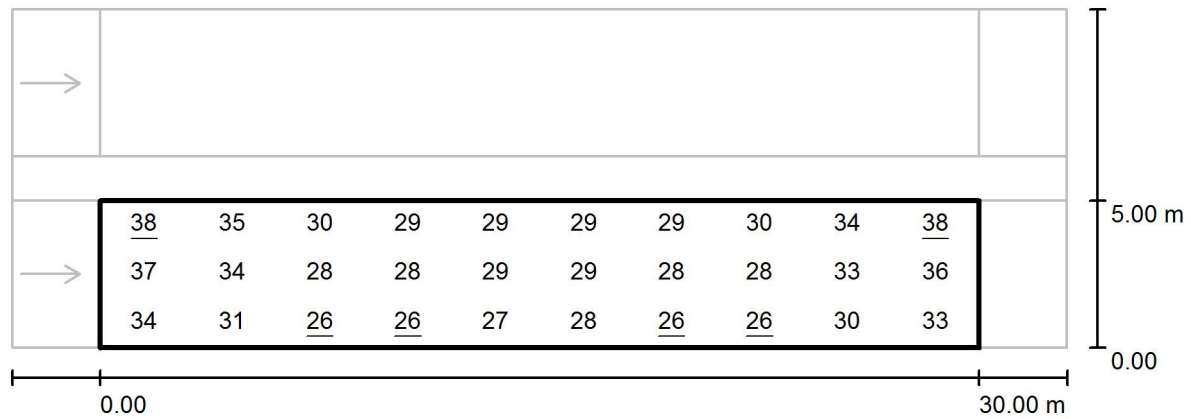


Luminaire:	Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street Light, Model No.: PE-11-D-L-WXOA		
Luminous flux (Luminaire):	22912 lm	Maximum luminous intensities	
Luminous flux (Lamps):	22912 lm	at 70°:	156 cd/klm
Luminaire Wattage:	196.4 W	at 80°:	30 cd/klm
Arrangement:	on Median	at 90°:	14 cd/klm
Pole Distance:	30.000 m	Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.	
Mounting Height (1):	11.000 m	Arrangement complies with luminous intensity class G3.	
Height:	11.000 m	Arrangement complies with glare index class D.3.	
Overhang (2):	1.050 m		
Boom Angle (3):	15.0 °		
Boom Length (4):	1.800 m		



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Street 1 / Valuation Field Roadway 1 / Value Chart (E)



Values in Lux, Scale 1 : 258

Grid: 10 x 3 Points

E_{av} [lx]
31

E_{min} [lx]
26

E_{max} [lx]
38

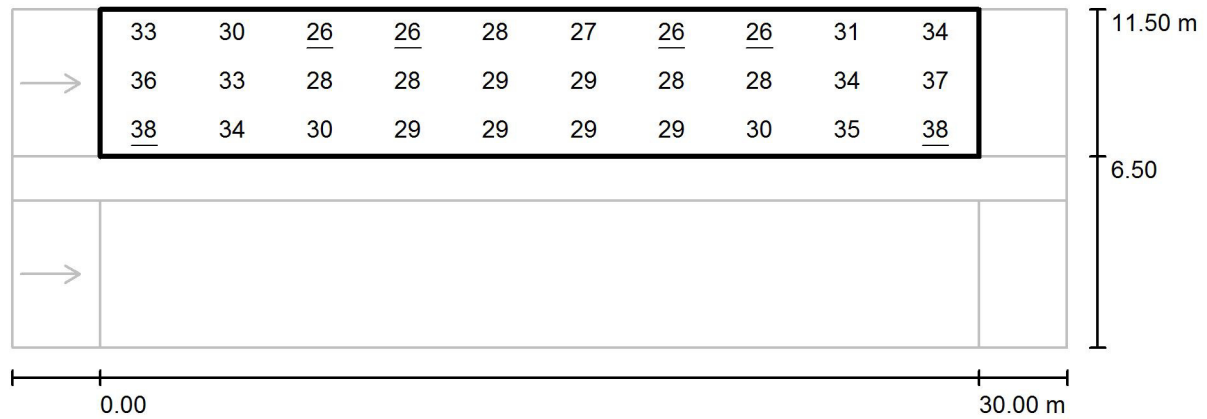
u_0
0.835

E_{min} / E_{max}
0.673



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Street 1 / Valuation Field Roadway 2 / Value Chart (E)



Values in Lux, Scale 1 : 258

Grid: 10 x 3 Points

E_{av} [lx]
31

E_{min} [lx]
26

E_{max} [lx]
38

$u0$
0.835

E_{min} / E_{max}
0.673

5 X 800 MW YADADRI TPS

ROAD LIGHTING : 7.5M WIDE ROAD

VENDOR : PYROTECH ELECTRONICS PVT LTD

PROJECT : 5 X 800 MW YADADRI TPS

CLIENT : TELENGANA STATE POWER GENERATION CORPORATION LTD
BHEL NO : PE-V0-417-558-E225 - Revision

Date: 02.02.2023

Operator: MIKA ENGINEERS
DESIGN VETTED BY PYROTECH ELECTRONICS PVT. LTD.



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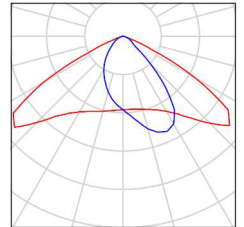


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5 X 800 MW YADADRI TPS / Luminaire parts list

7 Pieces Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street
Light, Model No.: PE-11-D-L-WXOA
Article No.:
Luminous flux (Luminaire): 22912 lm
Luminous flux (Lamps): 22912 lm
Luminaire Wattage: 196.4 W
Luminaire classification according to CIE: 100
CIE flux code: 52 91 99 100 100
Fitting: 1 x 230Vac 50Hz, 200W (Correction
Factor 1.000).

See our luminaire
catalog for an image of
the luminaire.





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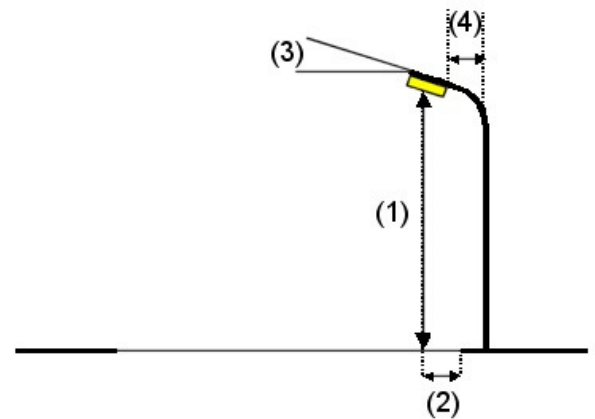
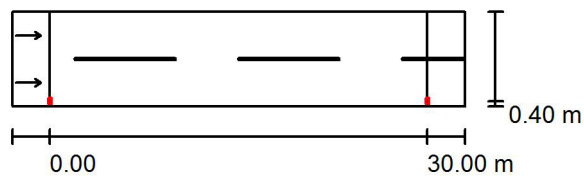
Street 1 / Planning data

Street Profile

Roadway 1 (Width: 7.500 m, Number of lanes: 2, tarmac: R3, q0: 0.070)

Light loss factor: 0.55

Luminaire Arrangements

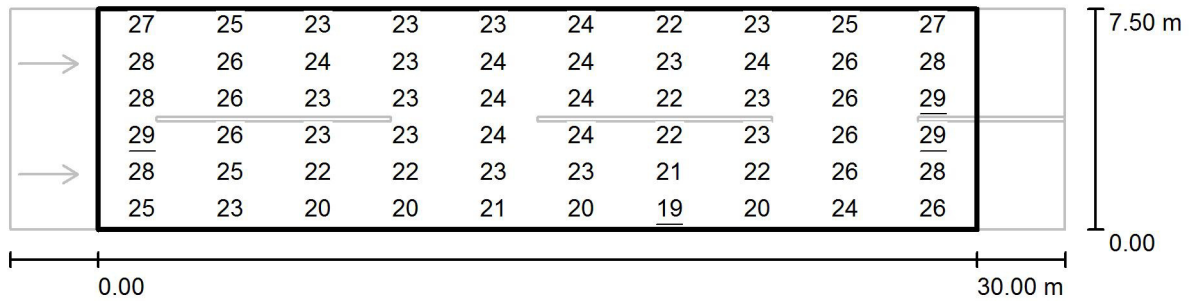


Luminaire:	Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street Light, Model No.: PE-11-D-L-WXOA	
Luminous flux (Luminaire):	22912 lm	Maximum luminous intensities
Luminous flux (Lamps):	22912 lm	at 70°: 156 cd/klm
Luminaire Wattage:	196.4 W	at 80°: 30 cd/klm
Arrangement:	Single row, bottom	at 90°: 14 cd/klm
Pole Distance:	30.000 m	Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.
Mounting Height (1):	11.000 m	
Height:	11.000 m	Arrangement complies with luminous intensity class G3.
Overhang (2):	0.400 m	Arrangement complies with glare index class D.3.
Boom Angle (3):	15.0 °	
Boom Length (4):	1.800 m	



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Street 1 / Valuation Field Roadway 1 / Value Chart (E)



Values in Lux, Scale 1 : 258

Grid: 10 x 6 Points

E_{av} [lx]
24

E_{min} [lx]
19

E_{max} [lx]
29

u_0
0.779

E_{min} / E_{max}
0.646

5 X 800 MW YADADRI TPS

ROAD LIGHTING : 5M WIDE ROAD

VENDOR : PYROTECH ELECTRONICS PVT LTD

PROJECT : 5 X 800 MW YADADRI TPS

CLIENT : TELENGANA STATE POWER GENERATION CORPORATION LTD
BHEL NO : PE-V0-417-558-E225 - Revision

Date: 02.02.2023

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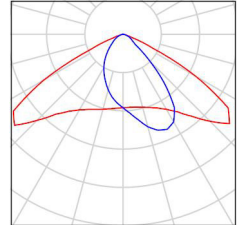


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5 X 800 MW YADADRI TPS / Luminaire parts list

7 Pieces Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street
Light, Model No.: PE-11-D-L-WXOA
Article No.:
Luminous flux (Luminaire): 22912 lm
Luminous flux (Lamps): 22912 lm
Luminaire Wattage: 196.4 W
Luminaire classification according to CIE: 100
CIE flux code: 52 91 99 100 100
Fitting: 1 x 230Vac 50Hz, 200W (Correction
Factor 1.000).

See our luminaire
catalog for an image of
the luminaire.





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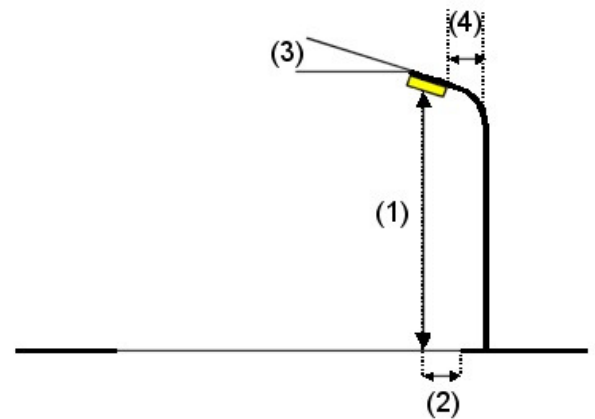
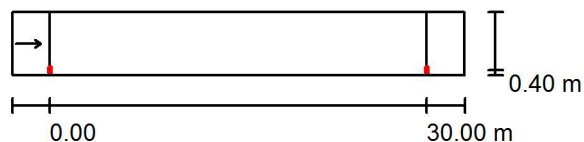
Street 1 / Planning data

Street Profile

Roadway 1 (Width: 5.000 m, Number of lanes: 1, tarmac: R3, q0: 0.070)

Light loss factor: 0.55

Luminaire Arrangements

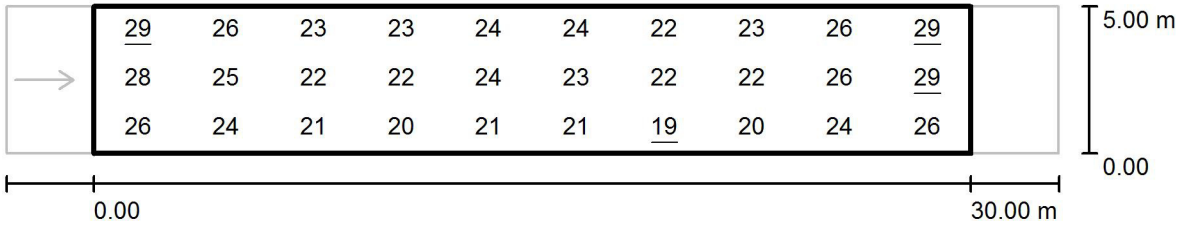


Luminaire:	Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street Light, Model No.: PE-11-D-L-WXOA	
Luminous flux (Luminaire):	22912 lm	Maximum luminous intensities
Luminous flux (Lamps):	22912 lm	at 70°: 156 cd/klm
Luminaire Wattage:	196.4 W	at 80°: 30 cd/klm
Arrangement:	Single row, bottom	at 90°: 14 cd/klm
Pole Distance:	30.000 m	Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.
Mounting Height (1):	11.000 m	Arrangement complies with luminous intensity class G3.
Height:	11.000 m	Arrangement complies with glare index class D.3.
Overhang (2):	0.400 m	
Boom Angle (3):	15.0 °	
Boom Length (4):	1.800 m	



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Street 1 / Valuation Field Roadway 1 / Value Chart (E)



Values in Lux, Scale 1 : 258

Grid: 10 x 3 Points

E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u0	E_{min} / E_{max}
24	19	29	0.802	0.660

5 X 800 MW YADADRI TPS

ROAD LIGHTING : 3.75M WIDE ROAD

VENDOR : PYROTECH ELECTRONICS PVT LTD

PROJECT : 5 X 800 MW YADADRI TPS

CLIENT : TELENGANA STATE POWER GENERATION CORPORATION LTD
BHEL NO : PE-V0-417-558-E225-Revision

Date: 02.02.2023

Operator: MIKA ENGINEERS
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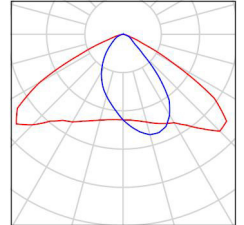


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5 X 800 MW YADADRI TPS / Luminaire parts list

7 Pieces Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street
Light with Model No. PE-11-D-L-WXOA
Article No.:
Luminous flux (Luminaire): 14159 lm
Luminous flux (Lamps): 14159 lm
Luminaire Wattage: 118.3 W
Luminaire classification according to CIE: 100
CIE flux code: 55 92 99 100 100
Fitting: 1 x 230Vac 50Hz (Correction Factor
1.000).

See our luminaire
catalog for an image of
the luminaire.





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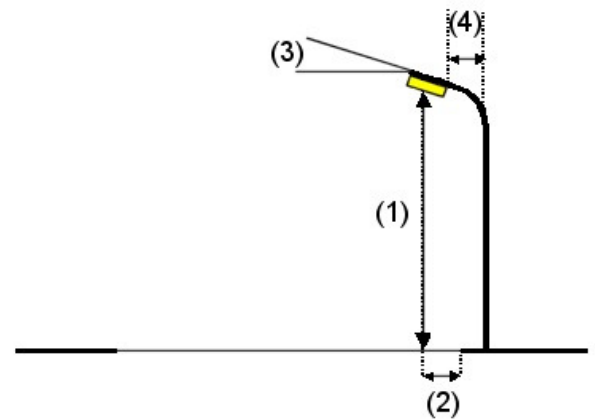
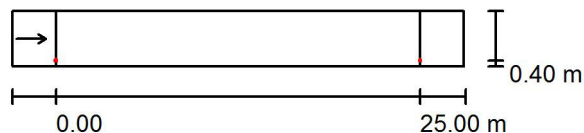
Street 1 / Planning data

Street Profile

Roadway 1 (Width: 3.750 m, Number of lanes: 1, tarmac: R3, q0: 0.070)

Light loss factor: 0.55

Luminaire Arrangements

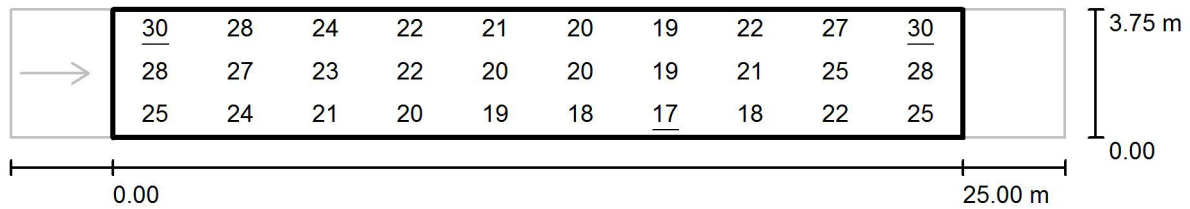


Luminaire:	Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street Light with Model No. PE-11-D-L-WXOA	
Luminous flux (Luminaire):	14159 lm	Maximum luminous intensities
Luminous flux (Lamps):	14159 lm	at 70°: 148 cd/klm
Luminaire Wattage:	118.3 W	at 80°: 31 cd/klm
Arrangement:	Single row, bottom	at 90°: 12 cd/klm
Pole Distance:	25.000 m	Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.
Mounting Height (1):	9.200 m	Arrangement complies with luminous intensity class G3.
Height:	9.200 m	Arrangement complies with glare index class D.1.
Overhang (2):	0.400 m	
Boom Angle (3):	15.0 °	
Boom Length (4):	1.200 m	



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Street 1 / Valuation Field Roadway 1 / Value Chart (E)



Values in Lux, Scale 1 : 222

Grid: 10 x 3 Points

E_{av} [lx]
23

E_{min} [lx]
17

E_{max} [lx]
30

u_0
0.729

E_{min} / E_{max}
0.554

5 X 800 MW YADADRI TPS

ROAD LIGHTING : 3.0M WIDE ROAD

VENDOR : PYROTECH ELECTRONICS PVT LTD

PROJECT : 5 X 800 MW YADADRI TPS

CLIENT : TELENGANA STATE POWER GENERATION CORPORATION LTD
BHEL NO : PE-V0-417-558-E225 -Revision

Date: 02.02.2023

Operator: MIKA ENGINEERS
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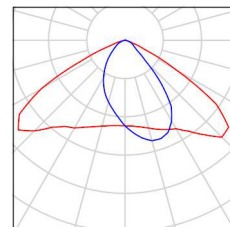


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5 X 800 MW YADADRI TPS / Luminaire parts list

7 Pieces Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street
Light with Model No. PE-11-D-L-WXOA
Article No.:
Luminous flux (Luminaire): 14159 lm
Luminous flux (Lamps): 14159 lm
Luminaire Wattage: 118.3 W
Luminaire classification according to CIE: 100
CIE flux code: 55 92 99 100 100
Fitting: 1 x 230Vac 50Hz (Correction Factor
1.000).

See our luminaire
catalog for an image of
the luminaire.





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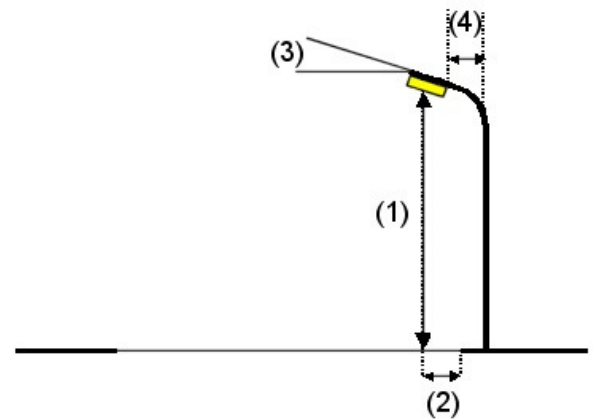
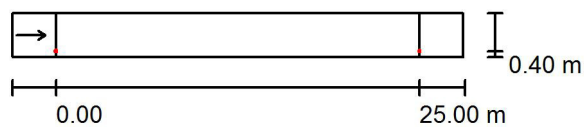
Street 1 / Planning data

Street Profile

Roadway 1 (Width: 3.000 m, Number of lanes: 1, tarmac: R3, q0: 0.070)

Light loss factor: 0.55

Luminaire Arrangements

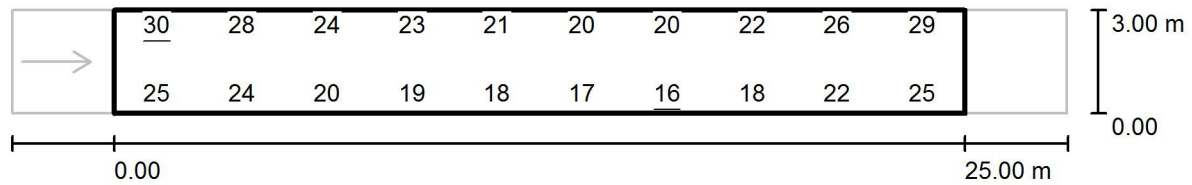


Luminaire:	Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street Light with Model No. PE-11-D-L-WXOA	
Luminous flux (Luminaire):	14159 lm	Maximum luminous intensities
Luminous flux (Lamps):	14159 lm	at 70°: 148 cd/klm
Luminaire Wattage:	118.3 W	at 80°: 31 cd/klm
Arrangement:	Single row, bottom	at 90°: 12 cd/klm
Pole Distance:	25.000 m	Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.
Mounting Height (1):	9.200 m	Arrangement complies with luminous intensity class G3.
Height:	9.200 m	Arrangement complies with glare index class D.1.
Overhang (2):	0.400 m	
Boom Angle (3):	15.0 °	
Boom Length (4):	1.200 m	



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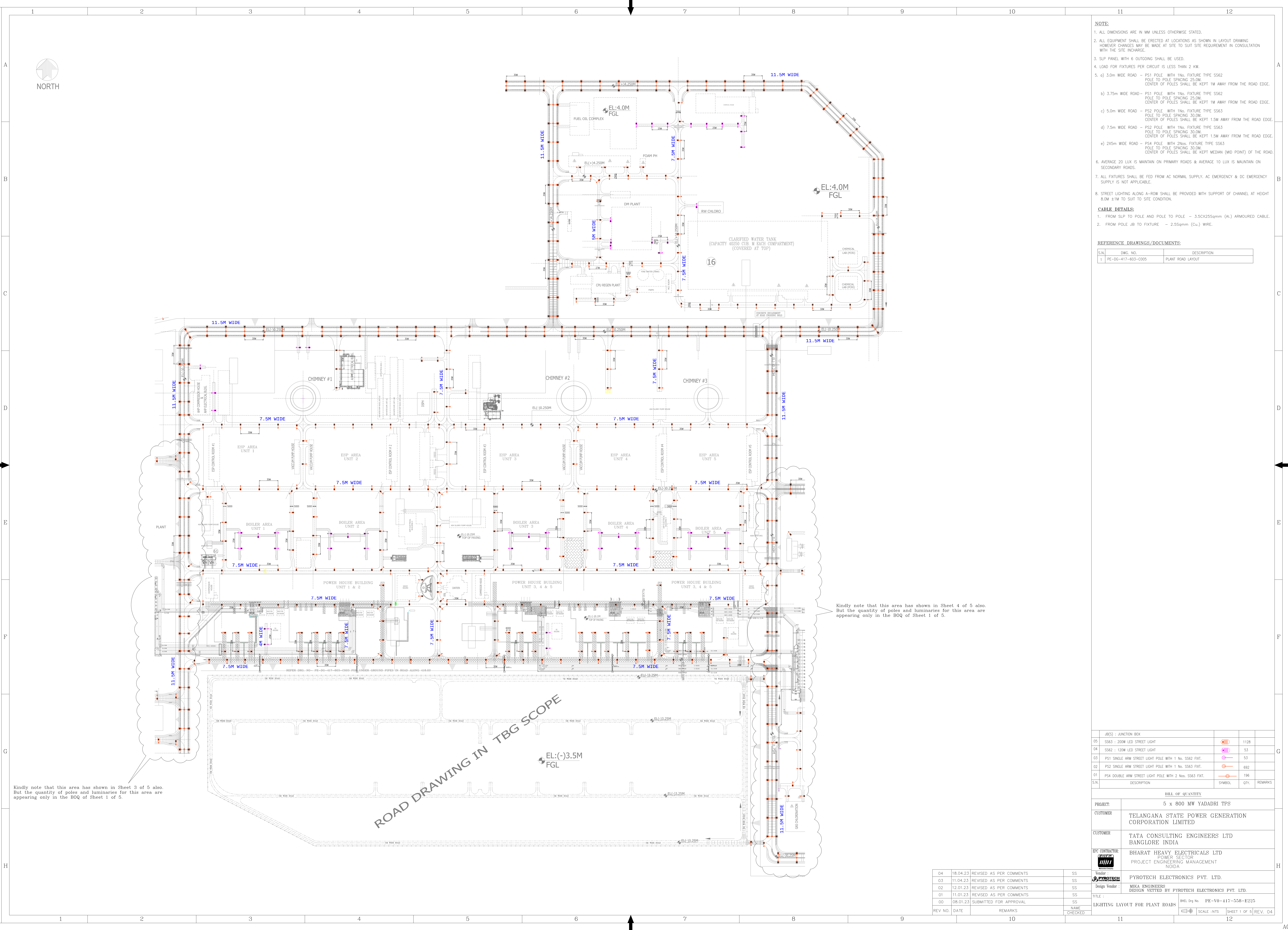
Street 1 / Valuation Field Roadway 1 / Value Chart (E)



Not all calculated values could be displayed.

Grid: 10 x 3 Points

E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0	E_{min} / E_{max}
22	16	30	0.733	0.554



Kindly note that this area has shown in Sheet 3 of 5 also.
But the quantity of poles and luminaries for this area are
appearing only in the BOQ of Sheet 1 of 5.

Kindly note that this area has shown in Sheet 4 of 5 also.
But the quantity of poles and luminaries for this area are
appearing only in the BOQ of Sheet 1 of 5.

- NOTE:**
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
 2. ALL EQUIPMENT SHALL BE ERECTED AT LOCATIONS AS SHOWN IN LAYOUT DRAWING
HOWEVER CHANGES MAY BE MADE AT SITE TO SUIT SITE REQUIREMENT IN CONSULTATION
WITH THE SITE INCHARGE.
 3. SLP PANEL WITH 6 OUTGOING SHALL BE USED.
 4. LOAD FOR FIXTURES PER CIRCUIT IS LESS THAN 2 KW.
 5. a) 3.0m WIDE ROAD – PS1 POLE WITH 1No. FIXTURE TYPE SS62
POLE TO POLE SPACING 25.0M
CENTER OF POLES SHALL BE KEPT 1M AWAY FROM THE ROAD EDGE.
 - b) 3.75m WIDE ROAD – PS1 POLE WITH 1No. FIXTURE TYPE SS62
POLE TO POLE SPACING 25.0M
CENTER OF POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 - c) 5.0m WIDE ROAD – PS2 POLE WITH 1No. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 - d) 7.5m WIDE ROAD – PS2 POLE WITH 1No. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 - e) 2X5m WIDE ROAD – PS4 POLE WITH 2Nos. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT MEDIAN (MID POINT) OF THE ROAD.
 6. AVERAGE 20 LUX IS MAINTAIN ON PRIMARY ROADS & AVERAGE 10 LUX IS MAINTAIN ON
SECONDARY ROADS.
 7. ALL FIXTURES SHALL BE FED FROM AC NORMAL SUPPLY, AC EMERGENCY & DC EMERGENCY
SUPPLY IS NOT APPLICABLE.
 8. STREET LIGHTING ALONG A-ROW SHALL BE PROVIDED WITH SUPPORT OF CHANNEL AT HEIGHT
8.0M ±1M TO SUIT TO SITE CONDITION.
- CABLE DETAILS:**
1. FROM SLP TO POLE AND POLE TO POLE – 3.5CX25sqmm (Al.) ARMoured CABLE.
 2. FROM POLE JB TO FIXTURE – 2.5sqmm (Cu.) WIRE.

REFERENCE DRAWINGS/DOCUMENTS:

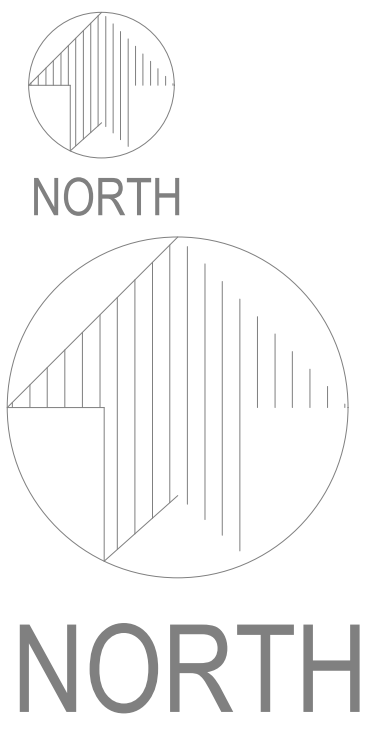
S.N.	DWG. NO.	DESCRIPTION
1	PE-DG-417-603-C005	PLANT ROAD LAYOUT

JB(S) : JUNCTION BOX				
05	SS63 : 200W LED STREET LIGHT		1128	
04	SS62 : 120W LED STREET LIGHT		53	
03	PS1 SINGLE ARM STREET LIGHT POLE WITH 1 No. SS62 FIXT.		53	
02	PS2 SINGLE ARM STREET LIGHT POLE WITH 1 No. SS63 FIXT.		692	
01	PS4 DOUBLE ARM STREET LIGHT POLE WITH 2 Nos. SS63 FIXT.		196	
S.N.	DESCRIPTION	SYMBOL	QTY.	REMARKS

PROJECT:	5 x 800 MW YADADRI TPS
CUSTOMER:	TELANGANA STATE POWER GENERATION CORPORATION LIMITED
CUSTOMER:	TATA CONSULTING ENGINEERS LTD BANGLORE INDIA
EPC CONTRACTOR:	BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA

Vendor:	Pyrotech	Pyrotech Electronics Pvt. Ltd.
Design Vendor:	Mika Engineers	Design vetted by Pyrotech Electronics Pvt. Ltd.
TITLE:	Lighting Layout for Plant Roads	
BHEL Dwg No.	PE-V0-417-558-E225	
Scale:	1:1	
Sheet:	1 of 5	
Rev:	04	

04	18.04.23	REVISED AS PER COMMENTS	SS
03	11.04.23	REVISED AS PER COMMENTS	SS
02	12.01.23	REVISED AS PER COMMENTS	SS
01	11.01.23	REVISED AS PER COMMENTS	SS
00	08.01.23	SUBMITTED FOR APPROVAL	SS
REV. NO.	DATE	REMARKS	CHECKED



INTERNAL ROAD DRAWING IN ISG SCOPE

- NOTE:**
- ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
 - ALL EQUIPMENT SHALL BE ERECTED AT LOCATIONS AS SHOWN IN LAYOUT DRAWING HOWEVER CHANGES MAY BE MADE AT SITE TO SUIT SITE REQUIREMENT IN CONSULTATION WITH THE SITE INCHARGE.
 - SLP PANEL WITH 6 OUTGOING SHALL BE USED.
 - LOAD FOR FIXTURES PER CIRCUIT IS LESS THAN 2 KW.
 - a) 3.0m WIDE ROAD – PS1 POLE WITH 1No. FIXTURE TYPE SS62
POLE TO POLE SPACING 25.0M
CENTER OF POLES SHALL BE KEPT 1M AWAY FROM THE ROAD EDGE.
 - b) 3.75m WIDE ROAD – PS1 POLE WITH 1No. FIXTURE TYPE SS62
POLE TO POLE SPACING 25.0M
CENTER OF POLES SHALL BE KEPT 1M AWAY FROM THE ROAD EDGE.
 - c) 5.0m WIDE ROAD – PS2 POLE WITH 1No. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 - d) 7.5m WIDE ROAD – PS2 POLE WITH 1No. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 - e) 2X3m WIDE ROAD – PS4 POLE WITH 2Nos. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT MEDIAN (MD POINT) OF THE ROAD.
 - AVERAGE 20 LUX IS MAINTAIN ON PRIMARY ROADS & AVERAGE 10 LUX IS MAINTAIN ON SECONDARY ROADS.
 - ALL FIXTURES SHALL BE FED FROM AC NORMAL SUPPLY, AC EMERGENCY & DC EMERGENCY SUPPLY IS NOT APPLICABLE.
 - STREET LIGHTING ALONG A-ROW SHALL BE PROVIDED WITH SUPPORT OF CHANNEL AT HEIGHT 8.0M ±1M TO SUIT TO SITE CONDITION.
- CABLE DETAILS:**
- FROM SLP TO POLE AND POLE TO POLE – 3.5CX25Sqmm (Al.) ARMoured CABLE.
 - FROM POLE JB TO FIXTURE – 2.5Sqmm (Cu.) WIRE.

REFERENCE DRAWINGS/DOCUMENTS:

S.N.	DWG. NO.	DESCRIPTION
1	PE-DG-417-603-C005	PLANT ROAD LAYOUT

PROJECT:	5 x 800 MW YADADRI TPS
CUSTOMER:	TELANGANA STATE POWER GENERATION CORPORATION LIMITED
CUSTOMER:	TATA CONSULTING ENGINEERS LTD BANGLORE INDIA
EPC CONTRACTOR:	BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NGIDA

Vendor:	Pyrotech	Pyrotech Electronics Pvt. Ltd.
Design Vendor:	Mika Engineers	Design vetted by Pyrotech Electronics Pvt. Ltd.

TITLE : LIGHTING LAYOUT FOR PLANT ROADS

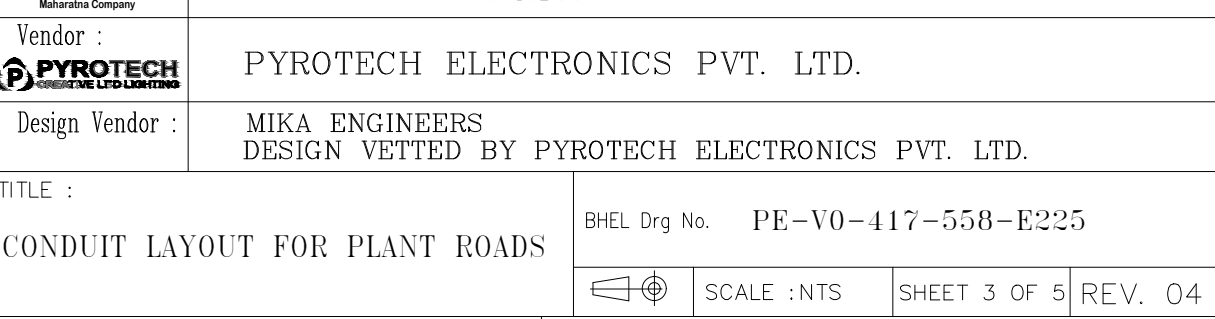
BHEL Dwg No. PE-V0-417-558-E225

REV. NO.	DATE	REMARKS	SS
04	18.04.23	REVISED AS PER COMMENTS	SS
03	11.04.23	REVISED AS PER COMMENTS	SS
02	12.01.23	REVISED AS PER COMMENTS	SS
01	11.01.23	REVISED AS PER COMMENTS	SS
00	08.01.23	SUBMITTED FOR APPROVAL	SS

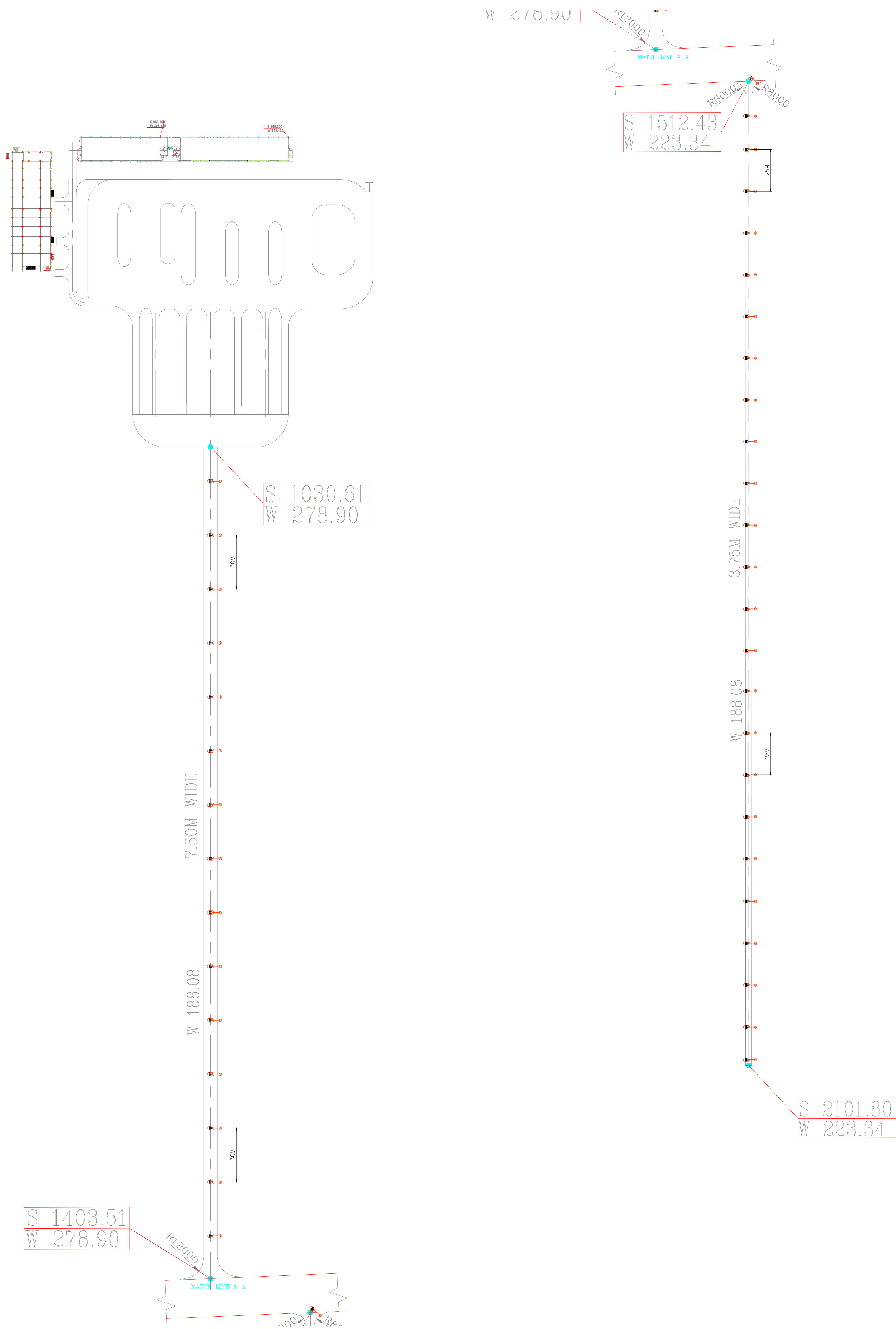
SCALE :NTS

SHEET 2 OF 5

REV. Q4







- NOTE:**
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
 2. ALL EQUIPMENT SHALL BE ERECTED AT LOCATIONS AS SHOWN IN LAYOUT DRAWING HOWEVER CHANGES MAY BE MADE AT SITE TO SUIT SITE REQUIREMENT IN CONSULTATION WITH THE SITE INCHARGE.
 3. SLP PANEL WITH 6 OUTGOING SHALL BE USED.
 4. LOAD FOR FIXTURES PER CIRCUIT IS LESS THAN 2 KW.
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POLE TO POLE SPACING 25.0M
CENTER OF POLES SHALL BE KEPT 1M AWAY FROM THE ROAD EDGE.
 - b) 3.75m WIDE ROAD - PS1 POLE WITH 1No. FIXTURE TYPE SS62
POLE TO POLE SPACING 25.0M
CENTER OF POLES SHALL BE KEPT 1M AWAY FROM THE ROAD EDGE.
 - c) 5.0m WIDE ROAD - PS2 POLE WITH 1No. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 - d) 7.5m WIDE ROAD - PS2 POLE WITH 1No. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 - e) 2X5m WIDE ROAD - PS4 POLE WITH 2Nos. FIXTURE TYPE SS63
POLE TO POLE SPACING 30.0M
CENTER OF POLES SHALL BE KEPT MEDIAN (MID POINT) OF THE ROAD.
 6. AVERAGE 20 LUX IS MAINTAIN ON PRIMARY ROADS & AVERAGE 10 LUX IS MAINTAIN ON SECONDARY ROADS.
 7. ALL FIXTURES SHALL BE FED FROM AC NORMAL SUPPLY, AC EMERGENCY & DC EMERGENCY SUPPLY IS NOT APPLICABLE.
 8. STREET LIGHTING ALONG A-ROW SHALL BE PROVIDED WITH SUPPORT OF CHANNEL AT HEIGHT 8.0M ±1M TO SUIT TO SITE CONDITION.
- CABLE DETAILS:**
1. FROM SLP TO POLE AND POLE TO POLE - 3.5CX25Sqmm (Al.) ARMoured CABLE.
 2. FROM POLE JB TO FIXTURE - 2.55sqmm (Cu.) WIRE.

REFERENCE DRAWINGS/DOCUMENTS:

S.N.	DWG. NO.	DESCRIPTION
1	PE-DG-417-603-C005	PLANT ROAD LAYOUT

PROJECT:	5 x 800 MW YADADRI TPS
CUSTOMER:	TELANGANA STATE POWER GENERATION CORPORATION LIMITED
CUSTOMER:	TATA CONSULTING ENGINEERS LTD BANGLORE INDIA
EPC CONTRACTOR:	BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NGIDA

Vendor:	Pyrotech	Pyrotech Electronics PVT. LTD.
Design Vendor:	MIKA ENGINEERS	DESIGN VETTED BY PYROTECH ELECTRONICS PVT. LTD.
TITLE:		
CONDUIT LAYOUT FOR PLANT ROADS	BHEL Dwg No.	PE-V0-417-558-E225

REV. NO.	DATE	REMARKS	SS	CHECKED
04	18.04.23	REVISED AS PER COMMENTS	SS	
03	11.04.23	REVISED AS PER COMMENTS	SS	
02	12.01.23	REVISED AS PER COMMENTS	SS	
01	11.01.23	REVISED AS PER COMMENTS	SS	
00	08.01.23	SUBMITTED FOR APPROVAL	SS	

LIGHTING DESIGN & LIGHTING LAYOUT
OF PATROL ROAD

					CUSTOMER: TELANGANA STATE POWER GENERATION CORPORATION LTD TELANGANA, INDIA 5 x 800 MW YADADRI TPS																																												
					OWNER'S CONSULTANT: TATA CONSULTING ENGINEERS LTD BANGLORE INDIA																																												
					BHE Bharat Heavy Electricals Ltd Maharashtra Company																																												
JOB NO. 417					PYROTECH ELECTRONICS PRIVATE LIMITED																																												
STATUS CONTRACT																																																	
DISTRIBUTION																																																	
<table><tr><td>REV.</td><td>DATE</td><td>ALTD</td><td>CHD</td><td>APPD</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>					REV.	DATE	ALTD	CHD	APPD						COPY RIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED it must not be used directly or indirectly in any way detrimental to the interest of the company. <table><tr><td>DEPT</td><td>CODE</td><td>NAME</td><td>SIGN</td><td>DATE</td></tr><tr><td>DRN</td><td>E</td><td>R.P.</td><td>-SD-</td><td>11.05.2023</td></tr><tr><td>DES</td><td></td><td>R.P.</td><td>-SD-</td><td>11.05.2023</td></tr><tr><td>CHD</td><td></td><td>R.S.</td><td>-SD-</td><td>11.05.2023</td></tr><tr><td>APPD</td><td></td><td>R.S.</td><td>-SD-</td><td>11.05.2023</td></tr></table>										DEPT	CODE	NAME	SIGN	DATE	DRN	E	R.P.	-SD-	11.05.2023	DES		R.P.	-SD-	11.05.2023	CHD		R.S.	-SD-	11.05.2023	APPD		R.S.	-SD-	11.05.2023
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LIGHTING DESIGN & LIGHTING LAYOUT OF PATROL ROAD																																																	
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SHEET 1 OF 7	REV. 00																																																

5 X 800 MW YADADRI TPS

PATROL ROAD LIGHTING : 3.75M WIDE ROAD

VENDOR : PYROTECH ELECTRONICS PVT LTD

PROJECT : 5 X 800 MW YADADRI TPS

CLIENT : TELENGANA STATE POWER GENERATION CORPORATION LTD
BHEL NO : PE-V0-417-558-E224

Date: 22.04.2023

Operator: MIKA ENGINEERS
DESIGN VETTED BY PYROTECH ELECTRONICS PVT. LTD.



Operator
Telephone
Fax
e-Mail

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5 X 800 MW YADADRI TPS	
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Planning data	4
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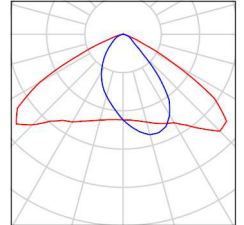


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5 X 800 MW YADADRI TPS / Luminaire parts list

6 Pieces Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street
Light with Model No. PE-11-D-L-WXOA
Article No.:
Luminous flux (Luminaire): 14159 lm
Luminous flux (Lamps): 14159 lm
Luminaire Wattage: 118.3 W
Luminaire classification according to CIE: 100
CIE flux code: 55 92 99 100 100
Fitting: 1 x 230Vac 50Hz (Correction Factor
1.000).

See our luminaire
catalog for an image of
the luminaire.





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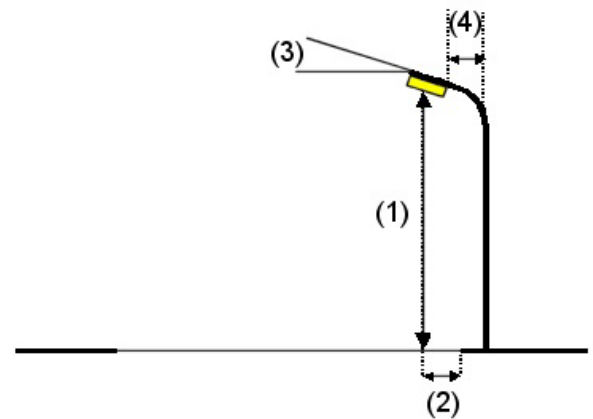
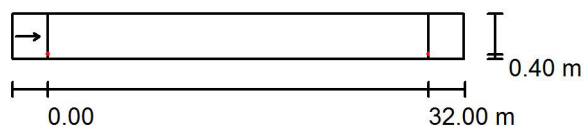
Street 1 / Planning data

Street Profile

Roadway 1 (Width: 3.750 m, Number of lanes: 1, tarmac: R3, q0: 0.070)

Light loss factor: 0.55

Luminaire Arrangements

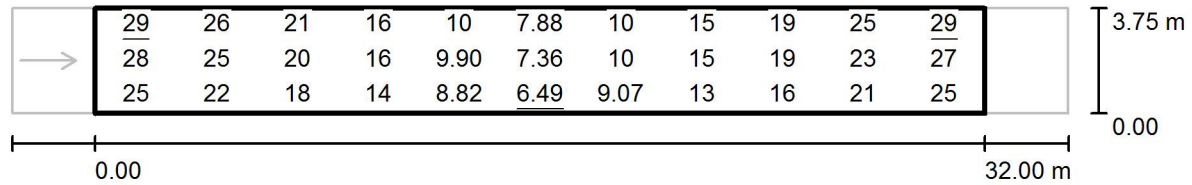


Luminaire:	Pyrotech Electronics Pvt.Ltd.(Unit-I) LED Street Light with Model No. PE-11-D-L-WXOA	
Luminous flux (Luminaire):	14159 lm	Maximum luminous intensities
Luminous flux (Lamps):	14159 lm	at 70°: 148 cd/klm
Luminaire Wattage:	118.3 W	at 80°: 31 cd/klm
Arrangement:	Single row, bottom	at 90°: 12 cd/klm
Pole Distance:	32.000 m	Any direction forming the specified angle from the downward vertical, with the luminaire installed for use.
Mounting Height (1):	9.200 m	Arrangement complies with luminous intensity class G3.
Height:	9.200 m	Arrangement complies with glare index class D.1.
Overhang (2):	0.400 m	
Boom Angle (3):	15.0 °	
Boom Length (4):	1.200 m	



Operator
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e-Mail

Street 1 / Valuation Field Roadway 1 / Value Chart (E)



Values in Lux, Scale 1 : 272

Grid: 11 x 3 Points

E_{av} [lx]
18

E_{min} [lx]
6.49

E_{max} [lx]
29

u_0
0.365

E_{min} / E_{max}
0.221



- NOTE:
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
 2. ALL EQUIPMENT SHALL BE ERECTED AT LOCATIONS AS SHOWN IN LAYOUT DRAWING HOWEVER CHANGES MAY BE MADE AT SITE TO SUIT SITE REQUIREMENT IN CONSULTATION WITH THE SITE INCHARGE.
 3. SLP PANEL WITH 6 OUTGOING SHALL BE USED.
 4. LOAD FOR FIXTURES PER CIRCUIT IS LESS THAN 2 KW.
 5. 3.75m WIDE ROAD — PS1 POLE WITH 1No. FIXTURE TYPE SS62
POLE TO POLE SPACING 32.0M.
POLES SHALL BE KEPT 1.5M AWAY FROM THE ROAD EDGE.
 6. AVERAGE 10 LUX IS MAINTAIN.

REFERENCE DRAWINGS/DOCUMENTS:

S.N.	DWG. NO.	DESCRIPTION
1	PE-DG-417-603-C010	LAYOUT AND DETAILS OF PATROL ROAD PE-DG-417-603-C010

03	JIB(S) : POLE JUNCTION BOX		--	
02	SS62 : 120W LED STREET LIGHT		---	
01	PS1 SINGLE ARM STREET LIGHT POLE WITH 1 No. SS62 FIXT.		---	
S.N.	DESCRIPTION	SYMBOL	QTY.	REMARKS

BILL OF QUANTITY				
PROJECT:	5 x 800 MW YADADRI TPS			
CUSTOMER	TELANGANA STATE POWER GENERATION CORPORATION LIMITED			
CUSTOMER	TATA CONSULTING ENGINEERS LTD BANGLORE INDIA			
EPC CONTRACTOR:	BHARAT HEAVY ELECTRICALS LTD POWER SECTOR PROJECT ENGINEERING MANAGEMENT NOIDA			
Vendor :	 PYROTECH ELECTRONICS PVT. LTD.			
Design Vendor :	MIKA ENGINEERS DESIGN VETTED BY PYROTECH ELECTRONICS PVT. LTD.			
TITLE :	LIGHTING LAYOUT FOR PETROL ROADS			
REV. NO.		DATE	REMARKS	NAME CHECKED
00		10.05.23	SUBMITTED FOR APPROVAL	SS
		BHEL Dwg No. PE-V0-417-558-E224		
		SCALE :NTS	SHEET 1 OF 6	REV. 00

N 200

N 400

N 600

N 800

N 1000

N 1200

N 1400

N 1600

W 3200

W 3000

W 2800

W 2600

W 2400

W 2200

W 2000

W 1800

W 1600

W 1400

MATCH LINE

32M
32M
32M