

# SINGHAL ENTERPRISES

## CIVIL & MINING CONTRACTOR

Administrative Office: 34 A, Metcalfe Street, 4th floor, Suit No.4F/1, Kolkata-700 013 Phone : 033-4008-5701,  
sepl.kolkata@rediffmail.com

TO,

P.O DATE : 16/11/2022

OPTIKS MECHATRONICS  
PLOT NO. 360, UDYOG KENDRA II  
ECOTECH-III, GREATER NOIDA  
UTTAR PRADESH- 201 306, INDIA

### PURCHASE ORDER

Sl no	Description of Item	Unit	Qty	RATE	Amount
84	Color Changing Projector/Floodlight Luminaire (82W - 90W)				
	(i).Design / Supply,Installation, Testing and commissioning of Color changing RGBW surface mounted Narrow/Medium/Wide beam luminaire suitable for outdoor applications of Facade Lighting, as per requirements and instructions of E/I. (ii) Luminaires should be enabled with high power LEDs, should consists of anti-aging and anti-UV high optical efficiency temperature-resistant lenses, suitable for architectural lighting as per design requirement. (iii). The luminaire should have options for various beam angles i.e. from 8° to 80°, actuals site requirement and instructions of E/I. (iv). Power consumption shall be commensurate with the type of lumination required, Luminaire luminous flux range of 3400- 3550 Lm or as / instructions of the E/I. Light fixture should be standard DMX512 protocol compatible, the DMX decoder function should be inbuilt and each light fixture should be individually addressable & should be able to operate with any standard DMX512 equipment, or as approved equivalent make by Engineer-in-Charge.				
	(v). Color rendering index CRI ≥ 80 for white LEDS's and power factor of complete luminaire ≥ 0.90, at full intensity, or as approved by the E/I. (vi). Luminaire should be provided with suitable integral/separate non-integral power supply unit. (vii) Lumen maintenance of at least L70@50,000 burning hours at 25°C, or as approved by the E/I. (viii). The luminaire should have powder coating pressure die cast aluminium housing with minimum 3-4mm thick safety glass, or as approved by the E/I. . (ix).Ingress Protection ≥ IP 66. Impact resistance level ≥ IK 07. Adequate heat sink with proper thermal management shall be provided, or as approved by the E/I. (x). Operating Temperature :-10°C to +45°C, Operating Humidity : 10%-90% THD should be less than 15%., or as approved equivalent make by Engineer in-Charge.				
	(xi). Housing to have adjustable base bracket for angle adjustment so that the light direction can be adjusted to illuminate desired structural elements. (xii). Connectors if used should be IP67 male/female connectors for loop through wiring. (xiii). The LED Luminaires and external drivers drivers if used should be BIS certified. (xiv). The fixtures proposed must have passed LM 79 & LM-80, Reports from NABL laboratory will be submitted post the issuance of LOA to the successful bidder and before the supply of material. Make of LEDs -LEDs of CREE / LUMINOUS / OSRAM /SEOUL/SAMSUNG/LUMILED /NICHIA, or as approved by the E/I.	Nos.	95.00	9200	874000
85	Static Projector/Floodlight Luminaire(80W-90W)				0



	<p>(i). Supply installation testing and commissioning of Static Color (3000K) surface mounted Narrow/Medium/Wide beam luminaire suitable for outdoor applications of Facade Lighting, as per requirements and instructions of E/I:-</p> <p>(ii). Luminaires should be enabled with high power LEDs, should consists of anti-aging and anti-UV high optical efficiency temperature-resistant lenses, suitable for architectural lighting as per design requirement.</p> <p>(iii). The luminaire should have options for various beam angles i.e. from 8° to 80°, actual will depend on the design by the contractor and site requirement.</p> <p>(iv). Power consumption should be between 80W to 90W at steady state full intensity, Luminaire luminous flux range of 5350-5500 Lm, or as approved equivalent make by Engineer-in-Charge.</p>				0
	<p>(v). Color rendering index CRI <math>\geq 80</math> for white LEDS's and power factor of complete luminaire <math>\geq 0.90</math>, at full intensity.</p> <p>(vi). Luminaire should be provided with suitable integral/separate non-integral power supply unit.</p> <p>(vii). Lumen maintenance of at least L70@50,000 burning hours at 25°C.</p> <p>(viii). The luminaire should have powder coating pressure die cast aluminium housing with minimum 3-4mm thick safety glass.</p> <p>(ix). Ingress Protection <math>\geq</math> IP 66. Impact resistance level <math>\geq</math> IK 07. Adequate heat sink with proper thermal management shall be provided.</p>				0
	<p>(x). Operating Temperature : -10°C to +45°C, Operating Humidity : 10%-90% THD should be less than 15%.</p> <p>(xi). Housing to have adjustable base bracket for angle adjustment so that the light direction can be adjusted to illuminate desired structural elements.</p> <p>(xii). Connectors if used should be IP67 male/female connectors for loop through wiring.</p> <p>(xiii). The LED Luminaires and external drivers drivers if used should be BIS certified.</p> <p>(xiv). The fixtures proposed must have passed LM 79 &amp; LM-80, Reports from NABL laboratory will be submitted post the issuance of LOA to the successful bidder and before the supply of material.</p>	Nos.	8.00	4200	33600
86	<b>Color Changing Projector/Floodlight Luminaire (45W-58W)</b>				0
	<p>(i). Supply , Installation , Testing , and commissioning of Color changing RGBW surface mounted Narrow/Medium/Wide beam luminaire suitable for outdoor applications of Facade Lighting, depending on design by the contractor and site requirement.</p> <p>(ii). Luminaires should be enabled with high power LEDs, should consists of anti-aging and anti-UV high optical efficiency temperature-resistant lenses, suitable for architectural lighting as per design requirement.</p> <p>(iii). The luminaire should have options for various beam angles i.e. from 8° to 80°, actual will depend on the design by the contractor and site requirement.</p> <p>(iv). Power consumption should be between 45W to 58W at steady state full intensity, Luminaire luminous flux range of 1760- 1900 Lm. Light fixture should be standard DMX512 protocol compatible, the DMX decoder function should be inbuilt and each light fixture should be individually addressable &amp; should be able to operate with any standard DMX512 equipment, or as approved equivalent make by Engineer-in-Charge.</p>				0



	<p>(v). Color rendering index <math>CRI \geq 80</math> for white LEDS's and power factor of complete luminaire <math>\geq 0.90</math>, at full intensity.</p> <p>(vi). Luminaire should be provided with suitable integral/separate non-integral power supply unit.</p> <p>(vii). Lumen maintenance of at least <math>L70@50,000</math> burning hours at <math>25^{\circ}\text{C}</math>, or as approved by the E/I.</p> <p>(viii). The luminaire should have powder coating pressure die cast aluminium housing with minimum 3-4mm thick safety glass, or as approved by the E/I.</p> <p>(ix). Ingress Protection <math>\geq IP 66</math>. Impact resistance level <math>\geq IK 07</math>. Adequate heat sink with proper thermal management shall be provided.</p>				0
	<p>(x). Operating Temperature : <math>-10^{\circ}\text{C}</math> to <math>+45^{\circ}\text{C}</math>, Operating Humidity : 10%-90%. THD should be less than 15%, or as approved by the E/I.</p> <p>(xi). Housing to have adjustable base bracket for angle adjustment so that the light direction can be adjusted to illuminate desired structural elements.</p> <p>(xii). Connectors if used should be IP67 male/female connectors for loop through wiring.</p> <p>(xiii). The LED Luminaires and external drivers drivers if used should be BIS certified.</p> <p>(xiv). The fixtures proposed must have passed LM 79 &amp; LM-80, Reports from NABL laboratory will be submitted post the issuance of LOA to the successful bidder and before the supply of material..</p>	Nos.	68.00	4600	312800
87	<b>Color Changing Linear Wall Washer Luminaire: 1000mm</b>				0
	<p>(i). Supply, Installation, Testing and commissioning of Color changing RGBW surface mounted Narrow/Medium/Wide/Elliptical beam luminaire suitable for outdoor applications of Facade Lighting, depending on design by the contractor and site requirement.</p> <p>(ii). Luminaires should be enabled with high power LEDs, should consists of anti-aging and anti-UV high optical efficiency temperature-resistant lenses, suitable for architectural lighting as per design requirements.</p> <p>(iii). The luminaire should have options for various beam angles i.e. from <math>8^{\circ}</math> to <math>80^{\circ}</math>, as per requirements and instructions of E/I:-</p> <p>(iv). Power consumption should be between 16W to 18W at steady state full intensity, Luminaire luminous flux range of 700- 750 Lm. Light fixture should be standard DMX512 protocol compatible, the DMX decoder function should be inbuilt and each light fixture should be individually addressable &amp; should be able to operate with any standard DMX512 equipment, or as approved equivalent make by Engineer-in-Charge.</p>				0
	<p>(v). Color rendering index <math>CRI \geq 80</math> for white LEDS's and power factor of complete luminaire <math>\geq 0.90</math>, at full intensity, or as approved by the E/I.</p> <p>(vi). Luminaire should be provided with suitable integral/separate non-integral power supply unit, or as approved by the E/I.</p> <p>(vii). Lumen maintenance of at least <math>L70@50,000</math> burning hours at <math>25^{\circ}\text{C}</math>, or as approved by the E/I.</p> <p>(viii). The luminaire should have powder coating extruded aluminium alloy housing with minimum 3-4mm thick safety glass or as approved by the E/I.</p> <p>(ix). Ingress Protection <math>\geq IP 66</math>. Impact resistance level <math>\geq IK 07</math>. Adequate heat sink with proper thermal management shall be provided.</p>				0

(x). Operating Temperature : -10°C to +45°C. Operating Humidity : 10%-90% THD should be less than 15%, or as approved by the E/I. (xi). Housing to have adjustable base bracket for angle adjustment so that the light direction can be adjusted to illuminate desired structural elements. (xii). Connectors if used should be IP67 male/female connectors for loop through wiring. (xiii). The LED Luminaires and external drivers drivers if used should be BIS certified. (xiv). The fixtures proposed must have passed LM 79 & LM-80, Reports from NABL laboratory will be submitted post the issuance of LOA to the successful bidder and before the supply of material.	Nos.	96.00	4700	451200
DMX controller	Nos.	2	50000	100000
Address writer				
				<b>1771600</b>

**TERMS AND CONDITIONS:**

1. GST 18% EXTRA
2. 5% PAYMENT ADVANCE
3. 10% PAYMENT WILL BE DONE AFTER HALF COMPLETION OF TOTAL PROJECT QUANTITY MATERIAL.
4. 85% PAYMENT WILL BE DONE AGAINST DELIVER

DELIVERY & BILLING ADDRESS : M/S SINGHAL ENTERPRISES, SK MEMORIAL & HAPPY STREET  
UNDER SMART CITY

GST NO. 10AAUFS0486N1ZO

CONTACT PERSON : VIKASH SINGH (89696 28939)

SOUMEN PAUL (79084 45414)

Thanking You

Yours Faithfully

For SINGHAL ENTERPRISES

