

SUMMARY OF ULR No. TC132782500001832F/TEST REPORT NO. TR120251215001 DATED 15/12/2025

(Number of pages in test report: Page no. 1 to 38)

TEST FORMAT AS PER IS 10322 (Part 5/ Sec 2): 2012+A1: 2015

1. **Customer/Manufacturer Name:** : URSAGLOW LIGHTING INDUSTRIES PRIVATE LIMITED
2ND. FLOOR, PLOT NO 238/593, SUB PLOT NO. 16, SIBA PLAZA STREET, GAJAPATI NAGAR,
BHUBANESWAR - 751005, ORISSA
2. **Product** : Recessed LED Luminaires
3. **Models** : Model Tested: **URSA** PLP-P6S-WW-15W; Brand Name:
(Series Models: PLP-P6S-CW-15W, PLP-P6R-WW-15W, PLP-P6R-CW-15W, PLP-P4R-CW-7W,
PLP-P5R-CW-12W, PLP-P5S-CW-12W, PLP-P4S-CW-8W, PLP-P4S-CW-6W, PLP-P3R-CW-3W;
Brand Name: **URSA** are in the same product family).
4. **Model Differences Provided (If Applicable)** : Yes
5. **Model Differences Verified as per MeitY Guidelines for Series Formulation** : Yes
6. **Test Results** : As Mentioned Under

| S. No. | TEST REQUIREMENT | CLAUSE | VERDICT |
|--------|---|--------|---------|
| 1. | General Test Requirements | Cl.4 | P |
| 2. | Classification of Luminaires | Cl.5 | P |
| 3. | Marking | Cl.6 | P |
| 4. | Construction | Cl.7 | P |
| 5. | Creepage Distances and clearance | Cl.8 | P |
| 6. | Provision for Earthing | Cl.9 | N/A |
| 7. | Terminals | Cl.10 | N/A |
| 8. | External and Internal wiring | Cl.11 | P |
| 9. | Protection against electric shock | Cl.12 | P |
| 10. | Endurance tests and Thermal tests | Cl.13 | P |
| 11. | Resistance to dust and moisture | Cl.14 | P |
| 12. | Insulation Resistance and electric Strength | Cl.15 | P |
| 13. | Resistance to Heat, Fire and Tracking | Cl.16 | P |
| 14. | Photometric Tests | Cl.17 | P |

General Information

1. The conformity certificates of critical components are verified to ensure complete testing of apparatus under test and details regarding harmonized IEC standards (where IEC Standards are not available) are also provided in the list of critical components.

Conclusion

1. Sample meets all relevant requirements of IS 10322 (Part 5/ Sec 2):2012+A1:2015



The NABL Accreditation and the BIS recognition claimed is valid only for the scope of accreditation and recognition as on date of this report, as mentioned on NABL and BIS Website respectively.

Remarks

1. Series Models: PLP-P6S-CW-15W, PLP-P6R-WW-15W, PLP-P6R-CW-15W, PLP-P4R-CW-7W, PLP-P5R-CW-12W, PLP-P5S-CW-12W, PLP-P4S-CW-8W, PLP-P4S-CW-6W, PLP-P3R-CW-3W; Brand Name: **URSA** are in the same product family and can be undertaken in series with Model Tested: PLP-P6S-WW-15W; Brand Name: **URSA** . All the tests have been performed on Model: PLP-P6S-WW-15W; Brand Name: **URSA** (Worst Case).
2. The test(s) have been carried out as per customer request only.
3. The report has been generated and verified digitally.

I, hereby, undertake that the verdict stated in the test reports for all the tests matches with the test results. The sample meets all the relevant requirements of IS 10322 (Part 5/ Sec 2):2012+A1:2015. If any deviation is found, suitable action may be taken.


Mithlesh
Tested By


Parul
Authorized Signatory

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BHARAT TEST HOUSE PVT. LTD.

1474, HSIIDC Industrial Estate, Rai, Distt. Sonapat, Haryana-131029
Tel.: 0130-2367673 | Mob.: 9310314585, 8930260106 | email: bthrai@bharattesthouse.com


(1)The above results are related only to the Tests/Calibration performed on the product received. Endorsement of product is neither inferred nor implied. (2) This report is not to be reproduced wholly or in part & forbidden to be used as an evidence in the court law & ought not to be used in any advertising media without our special permission in writing. (3) Samples will be disposed after 30 days except perishable items (within 7days) from date of issue of report or as per the regulatory guidelines, if not collected or claimed by the customer. (4) Total liability of our Test House is limited to the invoice amount only. (5) Report refers to the product received by Bharat Test House Pvt. Ltd. unless mentioned otherwise.



TEST REPORT

| | | | | |
|---|---|--|--|--------------|
| ULR No.: | TC1327825000001832F | | | Page 1 of 38 |
| Test Report No.: | TR120251215001 | Issue Date: | 15/12/2025 | |
| Discipline: | Electrical Testing | Group: | Lamps, Luminaires and Accessories | |
| Customer/Manufacturer: | URSAGLOW LIGHTING INDUSTRIES PRIVATE LIMITED 2ND. FLOOR, PLOT NO 238/593, SUB PLOT NO. 16, SIBA PLAZA STREET, GAJAPATI NAGAR, BHUBANESWAR - 751005, ORISSA | | | |
| Item Description: | Recessed LED Luminaires | | | |
| Sample Condition: | Fit for testing | | | |
| Identification: | Model Tested: | PLP-P6S-WW-15W | Serial No.: | Nil |
| | Series Models: | PLP-P6S-CW-15W, PLP-P6R-WW-15W, PLP-P6R-CW-15W, PLP-P4R-CW-7W, PLP-P5R-CW-12W, PLP-P5S-CW-12W, PLP-P4S-CW-8W, PLP-P4S-CW-6W, PLP-P3R-CW-3W | Sample Code: | SC25EPI19122 |
| | | | Sample Encoded Code: | 25E3DFBB7N |
| | | | Bar Code: | 263872CRS |
| Sample Deposited/Collected by: | Customer | | | |
| Reference no. | Nil | Date: | 15/11/2025 | |
| Job Order No.: | BTH-R1/PM/251129/1 | Date of receipt: | 29/11/2025 | |
| Date(s) of performance of tests: | 29/11/2025 to 13/12/2025 | | | |
| Laboratory Name and Address: | BHARAT TEST HOUSE PVT. LTD. 1474, HSIIDC Indl. Estate, Rai, Distt. Sonapat-131001 Haryana. | |  Scan this QR Code to verify the Report | |
| Test Location: | At Lab | | | |
| Test specification(s): | IS 10322 (Part 5/ Sec 2):2012+A1:2015 | | | |
| General Environmental Conditions: | Temperature: (27±2)°C Humidity: (65±5)%RH | | | |
| Result: | The product confirms the relevant test specification as per below report. | | | |
| Supplementary Information: | - Deviation from the test methods as prescribed in relevant Specification/Work Instructions: Nil - The information supplied by the customer may affect the validity of results reported as per standard requirement. | | | |
| Abbreviations: | P: Pass; F: Fail; N/A: Not Applicable | | | |
| Remarks: | <p>1. Series Models: PLP-P6S-CW-15W, PLP-P6R-WW-15W, PLP-P6R-CW-15W, PLP-P4R-CW-7W, PLP-P5R-CW-12W, PLP-P5S-CW-12W, PLP-P4S-CW-8W, PLP-P4S-CW-6W, PLP-P3R-CW-3W; Brand Name: URSA are in the same product family and can be undertaken in series with Model Tested: PLP-P6S-WW-15W; Brand Name: URSA. All the tests have been performed on Model: PLP-P6S-WW-15W; Brand Name: URSA (Worst Case).</p> <p>2. The test(s) have been carried out as per customer request only.</p> <p>3. The report has been generated and verified digitally.</p> | | | |
| This report is related to the sample submitted. | | | | |
| Tested by: | Reviewed by: | Authorized by: | | |
|  |  |  | | |
| Mithlesh | Parul | Parul | | |
| Testing Engineer/Analyst | Authorized Signatory | Authorized Signatory | | |
| Date: 15/12/2025 | Date: 15/12/2025 | Date: 15/12/2025 | | |



| TEST REPORT IS 10322 (Part 5/Sec 2):2012+A1:2015 Luminares Part 5: Particular requirements Section 2: Recessed Luminares | |
|---|--|
| Report Reference No..... | TR120251215001 |
| Date of issue..... | 15/12/2025 |
| Total number of pages..... | 38 |
| Manufacturer's name..... | URSAGLOW LIGHTING INDUSTRIES PRIVATE LIMITED |
| Address..... | 2ND. FLOOR, PLOT NO 238/593, SUB PLOT NO. 16, SIBA PLAZA STREET, GAJAPATI NAGAR, BHUBANESWAR - 751005, ORISSA |
| Test specification: | |
| Standard..... | IS 10322 (Part 5/ Sec 2):2012+A1:2015 |
| Test procedure..... | Compliance Report |
| Non-standard test method..... | N/A |
| Test Report Form No..... | BIS_LUM/RL_IS10322-5-2_V1.0 |
| Test Report Form(s) Originator..... | Bureau of Indian Standards |
| Master TRF..... | 23/11/2017 |
| Test item description..... | Recessed LED Luminares |
| Trade Mark..... |  URSA spark your life |
| Manufacturer..... | URSAGLOW LIGHTING INDUSTRIES PRIVATE LIMITED |
| Model No./Type reference..... | Model Tested: PLP-P6S-WW-15W Series Models: PLP-P6S-CW-15W, PLP-P6R-WW-15W, PLP-P6R-CW-15W, PLP-P4R-CW-7W, PLP-P5R-CW-12W, PLP-P5S-CW-12W, PLP-P4S-CW-8W, PLP-P4S-CW-6W, PLP-P3R-CW-3W. |
| Ratings..... | As indicating marking label (refer page no.4-5) |
| Other Documents Submitted..... | Please refer to Table: - List of Components at Page No.30 - Graphs and Curves provided at page no. 37 & 38 |

| Tested by: | Reviewed by: | Authorized by: |
|---|---|---|
|  |  |  |
| Mithlesh | Parul | Parul |
| Testing Engineer/Analyst | Authorized Signatory | Authorized Signatory |
| Date: 15/12/2025 | Date: 15/12/2025 | Date: 15/12/2025 |

TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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| Test Code | Description | Measurement/ testing | Total No. of tests | Total no. of applicable tests/ Req. | No. of tests/ Req. passed | Page No. |
|-----------|---|---|--------------------|-------------------------------------|---------------------------|----------|
| EL 2400 | Marking | Marking | 28 | 2/13 | 2/13 | 9 |
| EL 2401 | Construction | Construction | 127 | 9/13 | 9/13 | 10 |
| EL 2402 | Creepage Distances And Clearances | Creepage Distances And Clearances | 10 | 6/0 | 6/0 | 14 |
| EL 2403 | Provision For Earthing | Provision For Earthing | 19 | 0/0 | 0/0 | 15 |
| EL 2404 | Terminals | Screw Terminals | 02 | 0/0 | 0/0 | 16 |
| | | Screw less Terminals and Electrical Connections | 02 | 0/0 | 0/0 | 17 |
| EL 2405 | External And Internal Wiring | External And Internal Wiring | 73 | 17/10 | 17/10 | 18 |
| EL 2406 | Protection Against Electric Shock | Protection Against Electric Shock | 18 | 1/3 | 1/3 | 20 |
| EL 2407 | Endurance Tests And Thermal Tests | Endurance Tests And Thermal Tests | 08 | 3/0 | 3/0 | 21 |
| EL 2408 | Resistance To Dust And Moisture | Resistance To Dust And Moisture | 12 | 3/0 | 3/0 | 23 |
| EL 2409 | Insulation Resistance And Electric Strength | Insulation Resistance And Electric Strength | 07 | 5/0 | 5/0 | 24 |
| EL 2410 | Resistance to Heat, Fire And Tracking | Resistance to Heat, Fire And Tracking | 04 | 2/0 | 2/0 | 25 |
| EL 2411 | Photometric Tests | Photometric Tests | 01 | 1/0 | 1/0 | 26 |

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

(Approving Authority)



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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Copy of Marking Plate:

| | |
|---|---|
| <p>(Model Tested: PLP-P6S-WW-15W)</p> <div style="border: 1px solid black; padding: 5px;"> <p>LED Light: LED Panel URSA Model: PLP-P6S-WW-15W LED Panel: 15Watt, IP 20 Input: 200-240 VAC, 50 Hz, Current: 0.06A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> </div> | <p>Mark of origin: Brand</p> <p>URSA</p> |
| <p>(Series Model: PLP-P6S-CW-15W)</p> <div style="border: 1px solid black; padding: 5px;"> <p>LED Light: LED Panel URSA Model: PLP-P6S-CW-15W LED Panel: 15Watt, IP 20 Input: 200-240 VAC, 50 Hz, Current: 0.06A Ta: : 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> </div> | <p>(Series Model: PLP-P6R-WW-15W)</p> <div style="border: 1px solid black; padding: 5px;"> <p>LED Light: LED Panel URSA Model: PLP-P6R-WW-15W LED Panel: 15Watt, IP20 Input: 200-240 V AC, 50 Hz, Current: 0.06A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> </div> |
| <p>(Series Model: PLP-P6R-CW-15W)</p> <div style="border: 1px solid black; padding: 5px;"> <p>LED Light: LED Panel URSA Model: PLP-P6R-CW-15W LED Panel: 15Watt, IP20 Input: 200-240 V AC, 50 Hz, Current: 0.06A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> </div> | <p>(Series Model: PLP-P4R-CW-7W)</p> <div style="border: 1px solid black; padding: 5px;"> <p>LED Light: LED Panel URSA Model: PLP-P4R-CW-7W LED Panel: 7Watt, IP 20, Input: 200-240 VAC, 50 Hz, Current: 0.03A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> </div> |



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| | |
|---|--|
| <p align="center">(Series Model: PLP-P5R-CW-12W)</p> <p align="center">LED Light: LED Panel URSA Model: PLP-P5R-CW-12W LED Panel: 12Watt, IP20 Input: 200-240 VAC, 50 Hz, Current: 0.05A Ta: : 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> <p align="center"> </p> | <p align="center">(Series Model: PLP-P5S-CW-12W)</p> <p align="center">LED Light: LED Panel URSA Model: PLP-P5S-CW-12W LED Panel: 12Watt, IP20 Input: 200-240 V AC, 50 Hz, Current: 0.05A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> <p align="center"> </p> |
| <p align="center">(Series Model: PLP-P4S-CW-8W)</p> <p align="center">LED Light: LED Panel URSA Model: PLP-P4S-CW-8W LED Panel: 8Watt, IP20 Input: 200-240 VAC, 50 Hz, Current: 0.03A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> <p align="center"> </p> | <p align="center">(Series Model: PLP-P4S-CW-6W)</p> <p align="center">LED Light: LED Panel URSA Model: PLP-P4S-CW-6W LED Panel: 6Watt, IP20 Input: 200-240 VAC, 50 Hz, Current: 0.02A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> <p align="center"> </p> |
| <p align="center">(Series Model: PLP-P3R-CW-3W)</p> <p align="center">LED Light: LED Panel URSA Model: PLP-P3R-CW-3W LED Panel: 3Watt, IP20 Input: 200-240 V AC, 50 Hz, Current: 0.01A Ta: 45° C, PF:>0.9, L (Red), N (Black) Mfd.by: URSA Glow Lighting Industries Pvt. Ltd. MADE IN INDIA</p> <p align="center"> </p> | |



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| Table – List of Attachments | | |
|--|---------------------------|----------------------------|
| Attachment No. | Attachment Description | No. of pages in Attachment |
| Attachment – 1 | Photo Document | 01 |
| Attachment – 2 | Graphs & Curves | 02 |
| General remarks: | | |
| <ul style="list-style-type: none"> - The test results presented in this report relate only to the object tested. - This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. - Measurement of uncertainty reported is $\pm 2.78\%$ max. | | |
| Possible test case verdicts: | | |
| - test case does not apply to the test object | N/A (Not Applicable) | |
| - test object does meet the requirement..... | P (Pass) | |
| - test object does not meet the requirement..... | F (Fail) | |
| Testing..... | | |
| Date of receipt of test item | 29/11/2025 | |
| Date (s) of performance of tests | 29/11/2025 to 13/12/2025 | |
| Laboratory conditions..... | | |
| Ambient Temperature..... | (27 \pm 2) $^{\circ}$ C | |
| Ambient Humidity..... | (65 \pm 5)%RH | |



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General product information:

Product Description: Recessed LED Luminaires, 200-240 VAC, 15W, 0.06A, Class II, IP20 Luminaire suitable for mounting on normally flammable surfaces.

Model/TYPE Ref.:

| Sr. No. | Product description | Model Tested | Specifications |
|---------|-------------------------|----------------|---|
| 1 | Recessed LED Luminaires | PLP-P6S-WW-15W | 200-240 VAC, 15W, 0.06A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C |

Representative Models:

| Sr. No. | Product Description | Series Models | Specifications | Variation From Family Representative |
|---------|-------------------------|----------------|---|---|
| 1 | Recessed LED Luminaires | PLP-P6S-CW-15W | 200-240 VAC, 15W, 0.06A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | Model Designation, Input power, input current |
| 2. | | PLP-P6R-WW-15W | 200-240 VAC, 15W, 0.06A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |
| 3. | | PLP-P6R-CW-15W | 200-240 VAC, 15W, 0.06A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |
| 4. | | PLP-P4R-CW-7W | 200-240 VAC, 7W, 0.03A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |
| 5. | | PLP-P5R-CW-12W | 200-240 VAC, 12W, 0.05A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |
| 6. | | PLP-P5S-CW-12W | 200-240 VAC, 12W, 0.05A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |
| 7. | | PLP-P4S-CW-8W | 200-240 VAC, 8W, 0.03A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |
| 8. | | PLP-P4S-CW-6W | 200-240 VAC, 6W, 0.02A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |
| 9. | | PLP-P3R-CW-3W | 200-240 VAC, 3W, 0.01A, 50Hz, Class-II, PF:>0.9, IP20, Ta:45°C | |

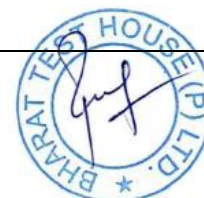
Supply connections: AC Supply

Representative Models: Lead Model: PLP-P6S-WW-15W

Technical Considerations:

- 1 Same class of construction of Luminaire.
- 2 Same AC Input Voltage of integral Control Gear.
- 3 Same material for enclosure.

Report Summary: All applicable tests according to the referenced standard(s) have been carried out.





ULR No. TC1327825000001832F
Test Report No. TR120251215001

IS 10322 (Part 5/Sec 2):2012+A1:2015

Page 8 of 38
Date: 15/12/2025

| Cl. No. | Test / Requirement name | Test Code | Test result/ observation | | Verdict |
|---------|---|-----------|--------------------------|--------|---------|
| 4 (1) | GENERAL TEST REQUIREMENTS | | | | P |
| 4 (1.1) | Information for luminaire design considered | | Standard | | - |
| | | | Yes [v] | No [] | |
| 4 (1.3) | More sections applicable | | Yes [] | No [v] | - |

| Cl. No. | Test / Requirement name | Test Code | Test result/ observation | | Verdict |
|---------|---|-----------|--------------------------|--------|---------|
| 5 (2) | CLASSIFICATION OF LUMINAIRES | | | | P |
| 5 (2.2) | Type of protection | | Class II | | - |
| 5 (2.3) | Degree of protection..... | | IP20 | | - |
| 5 (2.4) | Luminaire suitable for mounting on normally flammable surfaces | | Yes [v] | No [] | - |
| | Luminaire suitable for mounting on non-combustible materials | | Yes [] | No [v] | - |
| 5 (2.5) | Luminaire for normal use | | Yes [v] | No [] | - |
| | Luminaire for rough service | | Yes [] | No [v] | - |



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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BHARAT TEST HOUSE PVT. LTD.

1474, HSIIDC Industrial Estate, Rai, Distt. Sonapat, Haryana-131029
Tel.: 0130-2367673 | Mob.: 9310314585, 8930260106 | email: bthrai@bharattesthouse.com

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ISO 9001, ISO 14001 & ISO 45001 CERTIFIED LAB



| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|--------------|--|------------|--|---------|
| 6 (3) | MARKING | | | P |
| 6 (3.2) | Mandatory markings* | EL 2400-00 | Complied | P |
| | Position of the marking* | EL 2400-01 | Outside of luminaires which is visible at the time of installation | P |
| | Format of symbols/text* | EL 2400-02 | Complied | P |
| 6 (3.3) | Additional information* | EL 2400-03 | Complied | P |
| | Language of instructions* | EL 2400-04 | English | P |
| 6 (3.3.1) | Combination luminaires* | EL 2400-05 | No such construction | N/A |
| 6 (3.3.2) | Nominal frequency in Hz* | EL 2400-06 | 50Hz | P |
| 6 (3.3.3) | Operating temperature* | EL 2400-07 | | N/A |
| 6 (3.3.4) | Symbol or warning notice* | EL 2400-08 | Not Marked | N/A |
| 6 (3.3.5) | Wiring diagram* | EL 2400-09 | Marked | P |
| 6 (3.3.6) | Special conditions* | EL 2400-10 | No such construction | N/A |
| 6 (3.3.7) | Metal halide lamp luminaire – warning* | EL 2400-11 | LED module used | N/A |
| 6 (3.3.8) | Limitation for semi-luminaires* | EL 2400-12 | Not a semi-luminaires | N/A |
| 6 (3.3.9) | Power factor and supply current* | EL 2400-13 | PF:>0.9 & Supply Current: 0.06A | P |
| 6 (3.3.10) | Suitability for use indoors* | EL 2400-14 | Complied | P |
| 6 (3.3.11) | Luminaires with remote control* | EL 2400-15 | No remote control used | N/A |
| 6 (3.3.12) | Clip-mounted luminaire – warning* | EL 2400-16 | Not a Clip-mounted luminaire | N/A |
| 6 (3.3.13) | Specifications of protective shields* | EL 2400-17 | Protective shield not used | N/A |
| 6 (3.3.14) | Symbol for nature of supply* | EL 2400-18 | AC Marked | P |
| 6 (3.3.15) | Rated current of socket outlet* | EL 2400-19 | No socket outlet used | N/A |
| 6 (3.3.16) | Rough service luminaire* | EL 2400-20 | Not a rough service luminaire | N/A |
| 6 (3.3.17) | Mounting instruction for type X, type Y and type Z attachments* | EL 2400-21 | Type Y attachment | P |
| 6 (3.3.18) | Non-ordinary luminaires with PVC cable* | EL 2400-22 | Ordinary luminaire | N/A |
| 6 (3.4) | Test with water | EL 2400-23 | Complied | P |
| | Test with hexane | EL 2400-24 | Complied | P |
| | Legible after test* | EL 2400-25 | Marking legible and durable after the test | P |
| | Label attached* | EL 2400-26 | Not easily removable and no curling observed | P |
| 6 (3.5.1) | Standard Mark is governed by the provisions of the Bureau of Indian Standards Act,1986* | EL 2400-27 | Not marked | N/A |
| 6.1 | Insulating Ceiling F mark Symbol  | | Marked | P |

*Total number of Requirements to be observed/ inspected : 26
Total No. of applicable Requirement : 13
No. of Requirements for which the sample passed : 13

Total number of tests to be conducted : 02
Total No. of applicable Tests : 02
No. of tests for which the sample passed : 02

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

(Approving Authority)



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|----------------|--|------------|---------------------------------------|---------|
| 7 (4) | CONSTRUCTION | | | P |
| 7 (4.2) | Components replaceable without difficulty* | EL 2401-00 | Complied | P |
| 7 (4.3) | Wire ways smooth and free from sharp edges* | EL 2401-01 | Satisfactory | P |
| 7 (4.4) | Lamp holders | | | N/A |
| 7 (4.4.1) | Integral lamp holder* | EL 2401-02 | No Lamp holder used | N/A |
| 7 (4.4.2) | Wiring connection* | EL 2401-03 | As above | N/A |
| 7 (4.4.3) | Lamp holder for end-to-end mounting* | EL 2401-04 | As above | N/A |
| 7 (4.4.4) | Positioning | | As above | N/A |
| | - Pressure test (N) | EL 2401-05 | As above | N/A |
| | After test the lamp holder comply with relevant standard sheets and show no damage | EL 2401-06 | As above | N/A |
| | After test on single-capped lamp holder the lamp holder have not moved from its position and show no permanent deformation | EL 2401-07 | As above | N/A |
| | - bending test (N) | EL 2401-08 | As above | N/A |
| | After test the lamp holder have not moved from its position and show no permanent deformation | EL 2401-09 | As above | N/A |
| 7 (4.4.5) | Peak pulse voltage | EL 2401-10 | No ignitors used | N/A |
| 7 (4.4.6) | Centre contact* | EL 2401-11 | As above | N/A |
| 7 (4.4.7) | Parts in rough service luminaires resistant to tracking | EL 2401-12 | Not a rough service luminaire | N/A |
| 7 (4.4.8) | Lamp connectors* | EL 2401-13 | As above | N/A |
| 7 (4.5) | Starter holders | | | N/A |
| | Starter holder in luminaires other than class II* | EL 2401-14 | No starter holder used | N/A |
| | Starter holder class II construction* | EL 2401-15 | As above | N/A |
| | Starter can be touched with the standard test finger in class II luminaires* | EL 2401-16 | As above | N/A |
| 7 (4.6) | Terminal blocks | | | N/A |
| | Tails | EL 2401-17 | No terminal block used | N/A |
| | Unsecured blocks | EL 2401-18 | As above | N/A |
| 7 (4.7) | Terminals and supply connections | | | N/A |
| 7 (4.7.1) | Contact to metal parts* | EL 2401-19 | As above | N/A |
| 7 (4.7.2) | Test 8 mm live conductor | EL 2401-20 | As above | N/A |
| | Test 8 mm earth conductor | EL 2401-21 | No such construction used | N/A |
| 7 (4.7.3) | Terminals for supply conductors | EL 2401-22 | As above | N/A |
| 7 (4.7.4) | Terminals other than supply connection* | EL 2401-23 | No such construction | N/A |
| 7 (4.7.5) | Heat-resistant wiring/sleeves* | EL 2401-24 | No such construction | N/A |
| 7 (4.7.6) | Multi-pole plug* | EL 2401-25 | No such construction | N/A |
| 7 (4.8) | Switches | | | N/A |
| | - adequate rating* | EL 2401-26 | No switches used | N/A |
| | - adequate fixing* | EL 2401-27 | As above | N/A |
| | - polarized supply* | EL 2401-28 | As above | N/A |
| 7 (4.9) | Insulating lining and sleeves | | | N/A |
| 7 (4.9.1) | Retention* | EL 2401-29 | No Insulating lining and sleeves used | N/A |
| | Method of fixing..... | EL 2401-30 | As above | N/A |

TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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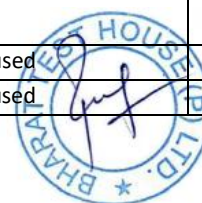
| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-----------------|---|------------|--|---------|
| 7 (4.9.2) | Insulated linings and sleeves: | | | N/A |
| | Resistant to a temperature > 20 °C to the wire temperature or | EL 2401-31 | No such construction used | N/A |
| | a) & c) Insulation resistance and electric strength | EL 2401-32 | As above | N/A |
| | b) Ageing test. Temperature (°C).....: | EL 2401-33 | As above | N/A |
| 7 (4.10) | Double or reinforced insulation | | | P |
| 7 (4.10.1) | No contact, mounting surface – accessible metal parts – wiring of basic insulation* | EL 2401-34 | No such construction | N/A |
| | Safe installation fixed luminaires* | EL 2401-35 | | P |
| | Capacitors and switches* | EL 2401-36 | No such construction | N/A |
| | Interference suppression capacitors according to ISQC 302400* | EL 2401-37 | | N/A |
| 7 (4.10.2) | Assembly gaps: | | | P |
| | - not coincidental* | EL 2401-38 | Satisfactory | P |
| | - no straight access with test probe | EL 2401-39 | Satisfactory | P |
| 7 (4.10.3) | Retention of insulation: | | | P |
| | - fixed* | EL 2401-40 | Insulation is tightly fixed | P |
| | - unable to be replaced; luminaire inoperative* | EL 2401-41 | Complied | P |
| | - sleeves retained in position* | EL 2401-42 | No sleeves used | N/A |
| | - tube of insulating material* | EL 2401-43 | | N/A |
| 7 (4.11) | Electrical connections and current-carrying parts | | | P |
| 7 (4.11.1) | Contact pressure* | EL 2401-44 | | N/A |
| 7 (4.11.2) | Screws: | | | P |
| | - self-tapping screws* | EL 2401-45 | No self-tapping screws used for connection of current carrying parts | P |
| | - thread-cutting screws* | EL 2401-46 | No thread-cutting screws used for interconnection of current carrying parts of metal | P |
| 7 (4.11.3) | Screw locking: | | | P |
| | - spring washer* | EL 2401-47 | No spring washer used | N/A |
| | - rivets* | EL 2401-48 | Rivets not used | N/A |
| 7 (4.11.4) | Material of current-carrying parts* | EL 2401-49 | Complied | P |
| 7 (4.11.5) | No contact to wood or mounting surface* | EL 2401-50 | Complied | P |
| 7 (4.11.6) | Electro-mechanical contact systems | EL 2401-51 | No electro-mechanical contact system provided | N/A |
| 7 (4.12) | Screws and connections (mechanical) and glands | | | P |
| 7 (4.12.1) | Screws not made of soft metal* | EL 2401-52 | Complied | P |
| | Screws of insulating material* | EL 2401-53 | No such screws used | N/A |
| | Torque test: torque (Nm); part.....: | EL 2401-54 | | N/A |
| | Torque test: torque (Nm); part.....: | EL 2401-55 | | N/A |
| | Torque test: torque (Nm); part.....: | EL 2401-56 | | N/A |
| 7 (4.12.2) | Screws with diameter < 3 mm screwed into metal* | EL 2401-57 | Screw diameter:2.25mm, applied torque:0.40Nm No damage observed | P |
| 7 (4.12.4) | Locked connections: | | | P |
| | - fixed arms; torque (Nm).....: | EL 2401-58 | No such construction | N/A |
| | - Lamp holder; torque (Nm).....: | EL 2401-59 | | N/A |
| | - Push-button switches; torque 0,8 Nm.....: | EL 2401-60 | | N/A |

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-----------------|---|------------|---|---------|
| 7 (4.12.5) | Screwed glands; force (Nm).....: | EL 2401-61 | No such construction | N/A |
| 7 (4.13) | Mechanical strength | | | P |
| 7 (4.13.1) | Impact tests: Table 1 in 10322 (part 5/ sec 2) | | | P |
| | - Fragile parts; energy (Nm).....: | EL 2401-62 | | N/A |
| | - Other parts; energy (Nm).....: | EL 2401-63 | 0.35Nm, No damage occurred | P |
| | 1) live parts | EL 2401-64 | Live parts are not accessible | P |
| | 2) linings | EL 2401-65 | No such construction | N/A |
| | 3) protection | EL 2401-66 | Complied | P |
| | 4) covers | EL 2401-67 | Complied | P |
| 7 (4.13.3) | Straight test finger | EL 2401-68 | No such construction | N/A |
| 7 (4.13.4) | Rough service luminaires | | | N/A |
| | - IP54 or higher | EL 2401-69 | Not rough service luminaires | N/A |
| | a) fixed | EL 2401-70 | As above | N/A |
| | b) hand-held | EL 2401-71 | As above | N/A |
| | c) delivered with a stand | EL 2401-72 | As above | N/A |
| | d) for temporary installations and suitable for mounting on a stand | EL 2401-73 | As above | N/A |
| 7 (4.13.6) | Tumbling barrel | EL 2401-74 | No such construction used | N/A |
| 7 (4.14) | Suspensions, fixings and means of adjusting | | | N/A |
| 7 (4.14.1) | Mechanical load: | | | N/A |
| | A) four times the weight | EL 2401-75 | Not a suspended luminaire | N/A |
| | B) torque 2,5 Nm | EL 2401-76 | Not a rigid suspension luminaires | N/A |
| | C) Bracket arm; bending moment (Nm).....: | EL 2401-77 | Not a rigid suspension brackets | N/A |
| | D) load track-mounted luminaires | EL 2401-78 | Not a track-mounted luminaire | N/A |
| | E) clip-mounted luminaires, glass-shelve. Thickness (mm) | EL 2401-79 | Not a clip mounted luminaire | N/A |
| | Metal rod. Diameter (mm) | EL 2401-80 | As above | N/A |
| 7 (4.14.2) | Load to flexible cables | | | N/A |
| | Mass (kg) | EL 2401-81 | Not a flexible cables or cords suspended luminaries | N/A |
| | Stress in conductors (N/mm ²) | EL 2401-82 | As above | N/A |
| | Mass (kg) of semi-luminaire | EL 2401-83 | No such luminaires | N/A |
| | Bending moment (Nm) of semi-luminaire | EL 2401-84 | As above | N/A |
| 7 (4.14.3) | Adjusting devices: | | | N/A |
| | - flexing test; number of cycles.....: | EL 2401-85 | No such adjusting devices | N/A |
| | - Strands broken.....: | EL 2401-86 | As above | N/A |
| | - electric strength test afterwards | EL 2401-87 | As above | N/A |
| 7 (4.14.4) | Telescopic tubes: cords not fixed to tube; no strain on conductors* | EL 2401-88 | No telescopic tube used | N/A |
| 7 (4.14.5) | Guide pulleys* | EL 2401-89 | No guide pulleys used | N/A |
| 7 (4.14.6) | Strain on socket-outlets* | EL 2401-90 | No socket outlet used | N/A |



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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-----------------|--|-------------|-------------------------------------|---------|
| 7 (4.15) | Flammable materials | | | P |
| | - Glow-wire test 650°C.....: | EL 2401-91 | Certified material used | N/A |
| | - spacing ≥ 30 mm | EL 2401-92 | | N/A |
| | - screen withstanding test of 13.3.1 | EL 2401-93 | No such construction used | N/A |
| | - screen dimensions | EL 2401-94 | | N/A |
| | - no fiercely burning material | EL 2401-95 | Complied | P |
| | - thermal protection | EL 2401-96 | | N/A |
| | - electronic circuits exempted | EL 2401-97 | | N/A |
| | Luminaires made of thermoplastic material with lamp control gear | | | P |
| | a) construction* | EL 2401-98 | Complied | P |
| | b) temperature sensing control | EL 2401-99 | No temperature sensing control used | N/A |
| | c) surface temperature | EL 2401-100 | | N/A |
| 7 (4.16) | Luminaires marked with symbol  | | | N/A |
| | No lamp control gear.....: | EL 2401-101 | Electronic control gear used | N/A |
| 7 (4.16.1) | Lamp control gear spacing: | | | N/A |
| | - spacing 10 mm | EL 2401-102 | As above | N/A |
| | - spacing 35 mm | EL 2401-103 | As above | N/A |
| 7 (4.16.2) | Thermal protection: | | | N/A |
| | - in lamp control gear | EL 2401-104 | No thermal protection | N/A |
| | - external | EL 2401-105 | As above | N/A |
| | - fixed position | EL 2401-106 | As above | N/A |
| | - temperature marked lamp control gear | EL 2401-107 | As above | N/A |
| 7 (4.16.3) | Design to satisfy the test of 12.6 | EL 2401-108 | As above | N/A |
| 7 (4.17) | Drain holes | | | N/A |
| | Clearance at least 5 mm | EL 2401-109 | No drain hole used | N/A |
| 7 (4.18) | Resistance to corrosion | | | N/A |
| 7 (4.18.1) | - rust-resistance | EL 2401-110 | IP20 luminaire | N/A |
| 7 (4.18.2) | - season cracking in copper | EL 2401-111 | As above | N/A |
| 7 (4.18.3) | - corrosion of aluminium | EL 2401-112 | As above | N/A |
| 7 (4.19) | Igniters compatible with ballast* | EL 2401-113 | No igniters used | N/A |
| 7 (4.20) | Rough service vibration | EL 2401-114 | Not a rough service luminaire | N/A |
| 7 (4.21) | Protective shield | | | N/A |
| 7 (4.21.1) | Shield fitted if tungsten halogen lamps | EL 2401-115 | LED luminaire, no shield provided | N/A |
| 7 (4.21.2) | Particles from a shattering lamp not impair safety | EL 2401-116 | As above | N/A |
| 7 (4.21.3) | No direct path | EL 2401-117 | As above | N/A |
| 7 (4.21.4) | Impact test on shield | EL 2401-118 | As above | N/A |
| | Glow-wire test on lamp compartment.....: | EL 2401-119 | As above | N/A |
| 7 (4.22) | Attachments to lamps not cause overheating or damage* | EL 2401-120 | LED luminaire | N/A |
| 7 (4.23) | Semi-luminaires comply Class II* | EL 2401-121 | Not a semi luminaire | N/A |
| 7 (4.24) | UV Radiation | | | N/A |
| | UV radiation for metal halide lamps (Annex P) | EL 2401-122 | Not a metal halide lamp | N/A |

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-----------------|---|-------------|--|---------|
| 7 (4.25) | Mechanical hazard | | | P |
| | No sharp point or edges* | EL 2401-123 | No sharp point or edges that created hazard for the user | P |
| 7 (4.26) | Short-circuit protection | | | N/A |
| 7 (4.26.1) | Adequate means of uninsulated accessible SELV parts | EL 2401-124 | No uninsulated accessible SELV parts | N/A |
| 7 (4.26.2) | Short-circuit test | EL 2401-125 | As above | N/A |
| 7 (4.26.3) | Test chain according to Fig. 29 | EL 2401-126 | As above | N/A |

*Total number of Requirements to be observed/ inspected : 45
 Total No. of applicable Requirement : 13
 No. of Requirements for which the sample passed : 13

Total number of tests to be conducted : 82
 Total No. of applicable Tests : 09
 No. of tests for which the sample passed : 09

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



(Approving Authority)



| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|---------------|--|------------|---|---------|
| 8 (11) | CREEPAGE DISTANCES AND CLEARANCES | | | P |
| 8 (11.2) | Working voltage (V).....: | EL 2402-00 | 200-240 VAC | P |
| | Voltage form.....: | EL 2402-01 | Sinusoidal [v] Non-sinusoidal [] | P |
| | PTI.....: | EL 2402-02 | <600 [v] >600 [] | P |
| | Impulse withstand category (Normal category II) (Category III Annex U) | EL 2402-03 | Category II [v] Category III [] | P |
| | Rated pulse voltage (Kv).....: | EL 2402-04 | | N/A |
| | (1) Current-carrying parts of different polarity: cr (mm); cl (mm).....: | EL 2402-05 | Creepage: 2.61mm (Minimum Distance required: 2.5mm) Clearance: 2.61mm (Minimum Distance required: 1.7mm) | P |
| | (2) Current-carrying parts and accessible parts: cr (mm); cl (mm).....: | EL 2402-06 | | N/A |
| | (3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm).....: | EL 2402-07 | | N/A |
| | (4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm).....: | EL 2402-08 | | N/A |
| | (6) Current-carrying parts and supporting surface: cr (mm); cl (mm).....: | EL 2402-09 | | N/A |

*Total number of Requirements to be observed/ inspected : 00
Total No. of applicable Requirement : 00
No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 10
Total No. of applicable Tests : 06
No. of tests for which the sample passed : 06

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



(Approving Authority)



| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-------------------|--|------------|--------------------------|---------|
| 9 (7) | PROVISION FOR EARTHING | | | N/A |
| 9 (7.2.1 + 7.2.3) | Accessible metal parts | EL 2403-00 | Class II Luminaire | N/A |
| | Metal parts in contact with supporting surface* | EL 2403-01 | | N/A |
| | Resistance < 0,5 Ω | EL 2403-02 | | N/A |
| | Self-tapping screws used* | EL 2403-03 | | N/A |
| | Thread-forming screws* | EL 2403-04 | | N/A |
| | Thread-forming screw used in a groove* | EL 2403-05 | | N/A |
| | Earth makes contact first* | EL 2403-06 | | N/A |
| 9 (7.2.2 + 7.2.3) | Earth continuity in joints, etc. * | EL 2403-07 | | N/A |
| 9 (7.2.4) | Compliance with 4.7.3 | EL 2403-08 | | N/A |
| | Connections adequately locked | EL 2403-09 | | N/A |
| 9 (7.2.5) | Earth terminal integral part of connector socket* | EL 2403-10 | | N/A |
| 9 (7.2.6) | Earth terminal adjacent to mains terminals* | EL 2403-11 | | N/A |
| 9 (7.2.7) | Electrolytic corrosion of the earth terminal* | EL 2403-12 | | N/A |
| 9 (7.2.8) | Material of earth terminal* | EL 2403-13 | | N/A |
| | Contact surface bare metal* | EL 2403-14 | | N/A |
| 9 (7.2.10) | Class II luminaire for looping-in* | EL 2403-15 | No such construction | N/A |
| | Double or reinforced insulation to functional earth* | EL 2403-16 | | N/A |
| 9 (7.2.11) | Earthing core coloured green-yellow* | EL 2403-17 | | N/A |
| | Length of earth conductor* | EL 2403-18 | | N/A |

*Total number of Requirements to be observed/ inspected : 00
 Total No. of applicable Requirement : 00
 No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 00
 Total No. of applicable Tests : 00
 No. of tests for which the sample passed : N/A

Certificate: The above tests/requirements are not applicable.



(Approving Authority)

TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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ULR No. TC1327825000001832F
Test Report No. TR120251215001

IS 10322 (Part 5/Sec 2):2012+A1:2015

Page 17 of 38
Date: 15/12/2025

| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|---------|---|------------|------------------------------|---------|
| 10 (14) | SCREW TERMINALS | | | N/A |
| | Separately approved; component list | EL 2404-00 | No screw terminal block used | N/A |
| | Part of the luminaire..... | EL 2404-01 | As above | N/A |

*Total number of Requirements to be observed/ inspected : 00
 Total No. of applicable Requirement : 00
 No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 02
 Total No. of applicable Tests : 00
 No. of tests for which the sample passed : N/A

Certificate: The Tests/Requirements are not applicable.



(Approving Authority)

TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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ULR No. TC1327825000001832F
Test Report No. TR120251215001

IS 10322 (Part 5/Sec 2):2012+A1:2015

Page 18 of 38
Date: 15/12/2025

| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|---------|---|------------|----------------------------------|---------|
| 10 (15) | SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS | | | N/A |
| | Separately approved; component list..... | EL 2404-02 | No screwless terminal block used | N/A |
| | Part of the luminaire..... | EL 2404-03 | As above | N/A |

*Total number of Requirements to be observed/ inspected : 00
 Total No. of applicable Requirement : 00
 No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 02
 Total No. of applicable Tests : 00
 No. of tests for which the sample passed : N/A

Certificate: The Tests/Requirements are not applicable.



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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BHARAT TEST HOUSE PVT. LTD.

1474, HSIIDC Industrial Estate, Rai, Distt. Sonapat, Haryana-131029
 Tel.: 0130-2367673 | Mob.: 9310314585, 8930260106 | email: bthrai@bharattesthouse.com

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|---------------|--|------------|---|---------|
| 11 (5) | EXTERNAL AND INTERNAL WIRING | | | P |
| 11 (5.2) | Supply connection and external wiring | | | P |
| 11 (5.2.1) | Means of connection* | EL 2405-00 | Non detachable flexible cable used | P |
| 11 (5.2.2) | Type of cable* | EL 2405-01 | PVC | P |
| | Nominal cross-sectional area (mm ²)* | EL 2405-02 | 2 x 0.75mm ² | P |
| | Cables equal to IS 694 and IS 9968 (Part 1) * | EL 2405-03 | Complied | P |
| | Luminaire provided with socket-outlet* | EL 2405-04 | No such construction used | N/A |
| 11 (5.2.3) | Type of attachment, X, Y or Z* | EL 2405-05 | Type Y attachment | P |
| 11 (5.2.5) | Type Z not connected to screws | EL 2405-06 | Type Y attachment | N/A |
| 11 (5.2.6) | Cable entries: | | | P |
| | - suitable for introduction | EL 2405-07 | Satisfactory | P |
| | - adequate degree of protection | EL 2405-08 | Adequate degree of protection provided | P |
| 11 (5.2.7) | Cable entries through rigid material have rounded edges* | EL 2405-09 | Complied | P |
| 11 (5.2.8) | Insulating bushings: | | | N/A |
| | - suitably fixed* | EL 2405-10 | Fixed luminaire with no means of adjustment | N/A |
| | - material in bushings* | EL 2405-11 | As above | N/A |
| | - material not likely to deteriorate* | EL 2405-12 | As above | N/A |
| | - tubes or guards made of insulating material* | EL 2405-13 | As above | N/A |
| 11 (5.2.9) | Locking of screwed bushings* | EL 2405-14 | As above | N/A |
| 11 (5.2.10) | Cord anchorage: | | | P |
| | - covering protected from abrasion | EL 2405-15 | Satisfactory | P |
| | - clear how to be effective | EL 2405-16 | Satisfactory | P |
| | - no mechanical or thermal stress | EL 2405-17 | Satisfactory | P |
| | - no tying of cables into knots etc. | EL 2405-18 | Complied | P |
| | - insulating material or lining | EL 2405-19 | Complied | P |
| 11 (5.2.10.1) | Cord anchorage for type X attachment: | | | N/A |
| | a) at least one part fixed | EL 2405-20 | No such attachment used | N/A |
| | b) types of cable | EL 2405-21 | As above | N/A |
| | c) no damaging of the cable | EL 2405-22 | As above | N/A |
| | d) whole cable can be mounted | EL 2405-23 | As above | N/A |
| | e) no touching of clamping screws | EL 2405-24 | As above | N/A |
| | f) metal screw not directly on cable | EL 2405-25 | As above | N/A |
| | g) replacement without special tool | EL 2405-26 | As above | N/A |
| | Glands not used as anchorage | EL 2405-27 | As above | N/A |
| | Labyrinth type anchorages | EL 2405-28 | As above | N/A |
| 11 (5.2.10.2) | Adequate cord anchorage for type Y and type Z attachment | EL 2405-29 | Satisfactory | P |



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-----------------|---|------------|---|---------|
| 11 (5.2.10.3) | Tests: | | | P |
| | - impossible to push cable; unsafe | EL 2405-30 | Satisfactory | P |
| | - pull test: 25 times; pull (N) | EL 2405-31 | 60N | P |
| | - torque test: torque (Nm)..... | EL 2405-32 | 0.15Nm | P |
| | - displacement ≤ 2 mm | EL 2405-33 | Satisfactory | P |
| | - no movement of conductors | EL 2405-34 | Satisfactory | P |
| | - no damage of cable or cord | EL 2405-35 | Complied | P |
| 11 (5.2.11) | External wiring passing into luminaire | EL 2405-36 | | P |
| 11 (5.2.12) | Looping-in terminals* | EL 2405-37 | No looping-in terminal | N/A |
| 11 (5.2.13) | Wire ends not tinned* | EL 2405-38 | | P |
| | Wire ends tinned: no cold flow* | EL 2405-39 | | N/A |
| 11 (5.2.14) | Mains plug same protection* | EL 2405-40 | No plug provided | N/A |
| | Class III luminaire plug* | EL 2405-41 | | N/A |
| 11 (5.2.15) | Colour coded red and black* | EL 2405-42 | LED module used and luminaire connected to ac mains supply | N/A |
| 11 (5.2.16) | Appliance inlets * | EL 2405-43 | No appliance inlet provided | N/A |
| | Appliance couplers * | EL 2405-44 | No appliance coupler used | N/A |
| 11 (5.3) | Internal wiring | | | P |
| 11 (5.3.1) | Internal wiring of suitable size and type* | EL 2405-45 | Suitable size and type of internal wiring used to handle the power occurring in normal used | P |
| | Through wiring | | | N/A |
| | - not delivered/ mounting instruction | EL 2405-46 | No through wiring used | N/A |
| | - factory assembled | EL 2405-47 | As above | N/A |
| | - socket outlet loaded (A) | EL 2405-48 | As above | N/A |
| | - temperatures..... | EL 2405-49 | As above | N/A |
| | Green-yellow for earth only | EL 2405-50 | No such construction used | N/A |
| 11 (5.3.1.1) | Internal wiring connected directly to fixed wiring* | | | P |
| | Cross-sectional area (mm ²) | EL 2405-51 | Complied | P |
| | Insulation thickness | EL 2405-52 | Complied | P |
| | Extra insulation added where necessary | EL 2405-53 | Not required | N/A |
| 11 (5.3.1.2) | Internal wiring connected to fixed wiring via internal current-limiting device* | | | P |
| | Adequate cross-sectional area and insulation thickness | EL 2405-54 | Satisfactory | P |
| 11 (5.3.1.3) | Double or reinforced insulation for class II* | EL 2405-55 | Accessible metal parts not used | N/A |
| 11 (5.3.1.4) | Conductors without insulation* | EL 2405-56 | No conductors without insulation | N/A |
| 11 (5.3.1.5) | SELV current-carrying parts* | EL 2405-57 | Complied | P |
| 11 (5.3.1.6) | Insulation thickness other than PVC or rubber* | EL 2405-58 | No such insulation used | N/A |
| 11 (5.3.2) | Sharp edges etc.* | EL 2405-59 | Internal wiring protected from sharp edges etc. | P |
| | No moving parts of switches etc.* | EL 2405-60 | No switches provided | N/A |
| | Joints, raising/lowering devices* | EL 2405-61 | No such construction | N/A |
| | Telescopic tubes etc.* | EL 2405-62 | No such construction | N/A |
| | No twisting over 360° | EL 2405-63 | No such construction | N/A |

TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|------------|---|------------|---------------------------|---------|
| 11 (5.3.3) | Insulating bushings: | | | N/A |
| | - suitable fixed* | EL 2405-64 | No such construction | N/A |
| | - material in bushings* | EL 2405-65 | As above | N/A |
| | - material not likely to deteriorate* | EL 2405-66 | As above | N/A |
| | - cables with protective sheath* | EL 2405-67 | As above | N/A |
| 11 (5.3.4) | Joints and junctions effectively insulated* | EL 2405-68 | No such construction used | N/A |
| 11 (5.3.5) | Strain on internal wiring* | EL 2405-69 | As above | N/A |
| 11 (5.3.6) | Wire carriers* | EL 2405-70 | No such construction | N/A |
| 11 (5.3.7) | Wire ends not tinned* | EL 2405-71 | No such construction | N/A |
| | Wire ends tinned: no cold flow* | | No such construction | N/A |

*Total number of Requirements to be observed/ inspected : 38
Total No. of applicable Requirement : 10
No. of Requirements for which the sample passed : 10

Total number of tests to be conducted : 35
Total No. of applicable Tests : 17
No. of tests for which the sample passed : 17

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|---------------|--|------------|---|---------|
| 12 (8) | PROTECTION AGAINST ELECTRIC SHOCK | | | P |
| 12 (8.2.1) | Live parts not accessible* | EL 2406-00 | Live parts are not accessible after installation and wired as in normal use | P |
| | Protection shall be maintained after removal of all parts* | EL 2406-01 | No such removable parts used | N/A |
| | Supply conductors held by screw less terminals with push-button* | EL 2406-02 | No such construction | N/A |
| | Tubular filament lamps having a cap/base at each end* | EL 2406-03 | LED luminaire | N/A |
| | Insulating properties of lacquer, enamel, paper and similar materials* | EL 2406-04 | No such materials are relied upon to give the protection against electric shock and short circuit | P |
| | Luminaires with ignitors | EL 2406-05 | No ignitors used | N/A |
| 12 (8.2.2) | Portable luminaire adjusted in most unfavourable position* | EL 2406-06 | Recessed LED luminaire | N/A |
| 12 (8.2.3.a) | Class II luminaire: | | | N/A |
| | - basic insulated metal parts not accessible during starter or lamp replacement* | EL 2406-07 | | N/A |
| | - glass protective shields not used as supplementary insulation* | EL 2406-08 | No glass protective shield used | N/A |
| 12 (8.2.3.b) | BC lampholder of metal in class I luminaires shall be earthed* | EL 2406-09 | No BC lampholder used | N/A |
| 12 (8.2.4) | Portable luminaire have protection independent of supporting surface* | EL 2406-10 | Recessed LED luminaire | N/A |
| 12 (8.2.5) | Compliance with the standard test finger or relevant probe | EL 2406-11 | Compliance checked by standard test finger | P |
| 12 (8.2.6) | Covers reliably secured* | EL 2406-12 | Adequate mechanical strength and reliably secured | P |
| 12 (8.2.7) | Discharging of capacitors $\geq 0,5 \mu\text{F}$ | EL 2406-13 | As above | N/A |
| | Portable plug connected luminaire with capacitor | EL 2406-14 | As above | N/A |
| | Other plug connected luminaire with capacitor | EL 2406-15 | As above | N/A |
| | Discharge device on or within capacitor | EL 2406-16 | As above | N/A |
| | Discharge device mounted separately | EL 2406-17 | As above | N/A |

*Total number of Requirements to be observed/ inspected : 11
Total No. of applicable Requirement : 03
No. of Requirements for which the sample passed : 03

Total number of tests to be conducted : 07
Total No. of applicable Tests : 01
No. of tests for which the sample passed : 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



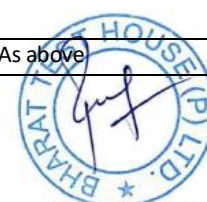
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TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|----------------|---|------------|---------------------------|---------|
| 13 (12) | ENDURANCE TEST AND THERMAL TEST | | | P |
| 13 (12.3) | Endurance test: | EL 2407-00 | Complied | P |
| | - mounting-position..... : | | Normal operating position | — |
| | - test temperature (°C)..... : | | 55°C | — |
| | - total duration (h)..... : | | 240 hrs | — |
| | - supply voltage: Un factor; calculated voltage (V)..... : | | 264V AC | — |
| | - lamp used..... : | | LED Package used | — |
| 13 (12.3.2) | After endurance test: | EL 2407-01 | See below | P |
| | - no part unserviceable* | | Complied | P |
| | - plastic ES lampholder not deformed* | | No such lampholder used | N/A |
| | - luminaire not unsafe* | | Complied | P |
| | - no damage to track system* | | No such construction used | N/A |
| | - marking legible* | | Complied | P |
| | - no cracks, deformation etc.* | | Complied | P |
| 13 (12.4) | Thermal test (normal operation) | EL 2407-02 | (See Annex 2) | P |
| 13 (12.5) | Thermal test (abnormal operation) | EL 2407-03 | | N/A |
| 13 (12.6) | Thermal test (failed lamp control gear condition): | | | N/A |
| 13 (12.6.1) | Without Thermal Cut-Outs | EL 2407-04 | No such construction | N/A |
| | - case of abnormal conditions..... : | | As above | — |
| | - electronic lamp control gear | | As above | N/A |
| | - measured winding temperature (°C): at 1,1 Un..... : | | As above | — |
| | - measured mounting surface temperature (°C) at 1,1 Un..... : | | As above | N/A |
| | - calculated mounting surface temperature (°C)..... : | | As above | N/A |
| | - track-mounted luminaires | | As above | N/A |
| 13 (12.6.2) | Temperature sensing control | EL 2407-05 | No such construction | N/A |
| | - case of abnormal conditions..... : | | As above | — |
| | - thermal link | | As above | N/A |
| | - manual reset cut-out | | As above | N/A |
| | - auto reset cut-out | | As above | N/A |
| | - measured mounting surface temperature (°C)..... : | | As above | N/A |
| | - track-mounted luminaires | | As above | N/A |
| 13 (12.7) | Thermal test (fault conditions in lamp control gear or electronic devices in plastic luminaires): | | | N/A |
| 13 (12.7.1) | Luminaire without temperature sensing control | EL 2407-06 | No such construction | N/A |
| | - case of abnormal conditions..... : | | As above | — |
| | - measured winding temperature (°C): at 1,1 Un..... : | | As above | — |
| | - measured temperature of fixing point/exposed part (°C): at 1,1 Un..... : | | As above | — |
| | - calculated temperature of fixing point/exposed part (°C)..... : | | As above | — |



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-------------|--|------------|---------------------------|---------|
| 13 (12.7.2) | Luminaire with temperature sensing control | EL 2407-07 | As above | N/A |
| | - thermal link..... : | | Yes [] No [v] | — |
| | - manual reset cut-out : | | Yes [] No [v] | — |
| | - auto reset cut-out..... : | | Yes [] No [v] | — |
| | - case of abnormal conditions : | | | — |
| | - highest measured temperature of fixing point/ exposed part (°C): : | | | — |
| 13.1 | Wiring, for connection to the supply (Table 2 in IS 10322 (Part5/Sec2) | | No such construction used | N/A |

*Total number of Requirements to be observed/ inspected : 00
Total No. of applicable Requirement : 00
No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 08
Total No. of applicable Tests : 03
No. of tests for which the sample passed : 03

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|---------------|--|------------|--|---------|
| 14 (9) | RESISTANCE TO DUST AND MOISTURE | | | P |
| 14 (-) | If IP > IP 20 the order of tests as specified in clause 9.2 | EL 2408-00 | IP20 | N/A |
| 14 (9.2) | Tests for ingress of dust, solid objects and moisture: | EL 2408-01 | See below | P |
| | - classification according to IP | | IP20 | - |
| | - mounting position during test..... | | | - |
| | - fixing screws tightened; torque (Nm) | | | - |
| | - tests according to clauses | | | - |
| | - electric strength test afterwards | | | N/A |
| | a) no deposit in dust-proof luminaire | EL 2408-02 | | N/A |
| | b) no talcum in dust-tight luminaire | EL 2408-03 | | N/A |
| | c) no trace of water on current-carrying parts or on insulation where it could become a hazard | EL 2408-04 | | N/A |
| | d) i) For luminaires without drain holes – no water entry | EL 2408-05 | | N/A |
| | d) ii) For luminaires with drain holes – no hazardous water entry | EL 2408-06 | | N/A |
| | e) no water in watertight luminaire | EL 2408-07 | | N/A |
| | f) no contact with live parts (IP 2X) | EL 2408-08 | Satisfactory | P |
| | g) no entry into enclosure (IP 3X and IP 4X) | EL 2408-09 | | N/A |
| | h) no contact with live parts (IP3X and IP4X) | EL 2408-10 | | N/A |
| 14 (9.3) | Humidity test 48 h | EL 2408-11 | No damage found after Humidity test carried out at 28°C and 92%Rh for 48hrs. | P |

*Total number of Requirements to be observed/ inspected : 00
 Total No. of applicable Requirement : 00
 No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 12
 Total No. of applicable Tests : 03
 No. of tests for which the sample passed : 03

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



(Approving Authority)



| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|----------------|---|------------|---|---------|
| 15 (10) | INSULATION RESISTANCE AND ELECTRIC STRENGTH | | | P |
| 15 (10.2.1) | Insulation resistance test | EL 2409-00 | Complied | P |
| | Cable or cord covered by metal foil or replaced by a metal rod of mm ϕ | | No such construction used | N/A |
| | Insulation resistance (M Ω)..... | | See below | P |
| | SELV | EL 2409-01 | Not a SELV luminaire | N/A |
| | - between current-carrying parts of different polarity..... | | As above | N/A |
| | - between current-carrying parts and mounting surface | | As above | N/A |
| | - between current-carrying parts and metal parts of the luminaire..... | | As above | N/A |
| | Other than SELV | EL 2409-02 | See below | P |
| | - between live parts of different polarity | | >100M Ω (Limit: Minimum 2M Ω) | P |
| | - between live parts and mounting surface | | | N/A |
| | - between live parts and metal parts | | | N/A |
| | - between live parts of different polarity through action of a switch | | No such construction used | N/A |
| 15 (10.2.2) | Electric strength test | EL 2409-03 | See below | P |
| | Dummy lamp | | No Dummy lamp | N/A |
| | Luminaires with ignitors after 24 h test | | No ignitors used | N/A |
| | Luminaires with manual ignitors | | No Manual Ignitor used | N/A |
| | Test voltage (V)..... | | See below | N/A |
| | SELV | EL 2409-04 | Not a SELV luminaire | N/A |
| | - between current-carrying parts of different polarity..... | | As above | N/A |
| | - between current-carrying parts and mounting surface | | As above | N/A |
| | - between current-carrying parts and metal parts of the luminaire..... | | As above | N/A |
| | Other than SELV | EL 2409-05 | See below | P |
| | - between live parts of different polarity | | Withstood (Test voltage:3710V~) No flashover and breakdown observed | P |
| | - between live parts and mounting surface | | No mounting surface | N/A |
| | - between live parts and metal parts | | | N/A |
| | - between live parts of different polarity through action of a switch | | No such construction used | N/A |
| 15 (10.3) | Touch current or protective conductor current (mA) | EL 2409-06 | L to body: 0.16mA (Limit:0.5mA) N to body: 0.23mA (Limit: 0.5mA) | P |



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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ULR No. TC1327825000001832F
Test Report No. TR120251215001

IS 10322 (Part 5/Sec 2):2012+A1:2015

Page 27 of 38
Date: 15/12/2025

*Total number of Requirements to be observed/ inspected : 00
Total No. of applicable Requirement : 00
No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 07
Total No. of applicable Tests : 05
No. of tests for which the sample passed : 05

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



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TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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BHARAT TEST HOUSE PVT. LTD.

1474, HSIIDC Industrial Estate, Rai, Distt. Sonapat, Haryana-131029
Tel.: 0130-2367673 | Mob.: 9310314585, 8930260106 | email: bthrai@bharattesthouse.com

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| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|-------------|--|------------|---|---------|
| 16 (13) | RESISTANCE TO HEAT, FIRE AND TRACKING | | See below | P |
| 16 (13.2.1) | Ball-pressure test.....: | EL 2410-00 | Complied | P |
| | - part tested; temperature (75°C).....: | | Plastic Diffuser Part tested at 75°C Diameter of impression = 0.98mm (Limit: 2.0mm) | P |
| 16 (13.3.1) | Needle-flame test (10 s).....: | EL 2410-01 | Certified LED PCB used | N/A |
| | - part tested | | As above | N/A |
| | - part tested | | As above | N/A |
| 16 (13.3.2) | Glow-wire test (650°C).....: | EL 2410-02 | Complied | P |
| | - part tested | | Plastic Diffuser tested at 650°C. No flame occurred no molten material dropped. | P |
| 16 (13.4.1) | Tracking test | EL 2410-03 | Certified Driver Used | N/A |
| | - part tested | | As above | N/A |

*Total number of Requirements to be observed/ inspected : 00
Total No. of applicable Requirement : 00
No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 04
Total No. of applicable Tests : 02
No. of tests for which the sample passed : 02

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



(Approving Authority)



| Cl. No | Test / Requirement name | Test Code | Test result/ observation | Verdict |
|--------|---|------------|--|---------|
| 17 | PHOTOMETRIC TESTS | | | P |
| | The photometric performance | EL 2411-00 | Satisfactory (Data enclosed) | P |
| 17.1 | Luminous Intensity | | Luminous Intensity (Central): 353.964cd Peak intensity: 360.224cd Beam angle: 115.7° | - |
| 17.2 | C-gamma system | | C angle (150°): 360.2cd G angle (6°): 360.2cd | - |
| 17.3 | The general guidance regarding the photometric data to be provided by the manufacturers | | Provided by the manufacturer | - |
| 17.4 | Light Controlling Components | | Satisfactory | - |

*Total number of Requirements to be observed/ inspected : 00
Total No. of applicable Requirement : 00
No. of Requirements for which the sample passed : N/A

Total number of tests to be conducted : 01
Total No. of applicable Tests : 01
No. of tests for which the sample passed : 01

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.



(Approving Authority)



| ANNEX 1 | | | | | | P |
|--|------|-------------------------------------|---------------------|------------------------------|--|----------------------------------|
| TABLE: Critical components information | | | | | | |
| Object / part No. | Code | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity |
| Plastic Enclosure | A | COVESTRO DEUTSCHLAND AG [PC RESINS] | RW2407 + (z) (f1) | V-2, 125°C | UL 94 (Equivalent to IEC 60695-11-10) | UL E41613 |
| Plastic Diffuser | A | LG CHEM LTD | LUMIPLAS LD7000F(#) | V-0, 80°C | UL 94 (Equivalent to IEC 60695-11-10) | UL E67171 |
| External Wire | A | VICTOR PUSHIN CORDS PVT LTD | PVC Insulated | 1100V, 2x0.75mm ² | IS 694: 2010 | CML/No. 8663997 |
| Internal Wire | A | XINYA ELECTRONIC CO LTD | 2408 | AWG-24, 60°C, 300Vac | UL 758 (No equivalent IEC standard) | UL E170689 |
| Driver PCB | A | EPITOME COMPONENTS LTD | EP-1 | V-0, 130°C | UL 796 (No equivalent IEC) | UL E212855 |
| MOV2 | A | CENTRA SCIENCE CORP | CNR-10D471K | 300V | IEC/EN 61051-1 | VDE 40008220 |
| Fusible Resistor (FR1) | A | NANJING SHAGON ELECTRONICS CO LTD | RXF | 1W, 22Ω | UL 1412 (Equivalent to IEC 60115-2, 60115-4) | UL E304814 |
| Fusible Resistor (FR2) | A | WATTS ELECTRONICS PRIVATE LIMITED | WWFHS1 | 1W, 22Ω | UL 1412 (Equivalent to IEC 60115-2, 60115-4) | UL E498797 |
| LED PCB | | JIANGXI HENGQING LIGHTING CO LTD | JXHQ-L | V-0,130°C | UL 796 (No Equivalent to IEC standard) | UL E502352 |
| LED | A | EVERLIGHT ELECTRONICS CO. LTD. | 67-21S 6500K | 3Vdc, 60mA | IEC/EN 62471: 2006 | Test Report No. – OC-2017- 50030 |

Supplementary information:
 Provided evidence ensures the agreed level of compliance. See OD-CB2039. The codes above have the following meaning:
 A - The component is replaceable with another one, also certified, with equivalent characteristics
 B - The component is replaceable if authorized by the test house
 C - Integrated component tested together with the appliance
 D - Alternative component



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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ULR No. TC1327825000001832F
Test Report No. TR120251215001

IS 10322 (Part 5/Sec 2):2012+A1:2015

Page 31 of 38
Date: 15/12/2025

| ANNEX 2 | TABLE: Temperature measurements, thermal tests of Section 12 | | P | | | | |
|---------------------------------------|---|---------------------------|--------|--------|-------|------------------------|-------|
| | Type reference | Recessed LED Luminaires | — | | | | |
| | Lamp used..... | LED Package used | — | | | | |
| | Lamp control gear used..... | Integral controlgear used | — | | | | |
| | Mounting position of luminaire..... | Normal Operating Position | — | | | | |
| | Supply wattage (W) | 15.65W | — | | | | |
| | Supply current (A)..... | 0.067A | — | | | | |
| | Calculated power factor | 0.97 | — | | | | |
| | Table: measured temperatures corrected for ta = 45°C: | | — | | | | |
| | - abnormal operating mode | N/A | — | | | | |
| | - test 1: rated voltage..... | 200-240VAC | — | | | | |
| | - test 2: 1,06 times rated voltage or 1,05 times rated wattage: | 254.4VAC | — | | | | |
| | - test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage | N/A | — | | | | |
| | - test 4: 1,1 times rated voltage or 1,05 times rated wattage...: | N/A | — | | | | |
| Temperature measurements, (°C) | | | | | | | |
| Sr. No. | Part | Clause 12.4–normal | | | | Clause 12.5 – abnormal | |
| | | test 1 | test 2 | test 3 | Limit | test 4 | Limit |
| 1 | Plastic Diffuser | 61.2°C | 62.7°C | - | 80°C | - | - |
| 2 | Internal wire | 41.6°C | 42.9°C | - | 60°C | - | - |
| 3 | LED PCB | 84.5°C | 85.6°C | - | 130°C | - | - |
| 5 | Plastic Enclosure | 45.7°C | 47.8°C | - | 125°C | - | - |
| Supplementary information: Nil | | | | | | | |



TRF No.: BIS_LUM/RL_IS10322-5-2_V1.0

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BHARAT TEST HOUSE PVT. LTD.

1474, HSIIDC Industrial Estate, Rai, Distt. Sonapat, Haryana-131029
Tel.: 0130-2367673 | Mob.: 9310314585, 8930260106 | email: bthrai@bharattesthouse.com

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ULR No. TC1327825000001832F
Test Report No. TR120251215001

IS 10322 (Part 5/Sec 2):2012+A1:2015

Page 32 of 38
Date: 15/12/2025

| ANNEX 3 | Screw terminals (part of the luminaire) | N/A |
|------------|--|-----|
| (14) | SCREW TERMINALS | N/A |
| (14.2) | Type of terminal: No screw terminal block used | — |
| | Rated current (A).....: — | — |
| (14.3.2.1) | One or more conductors | N/A |
| (14.3.2.2) | Special preparation | N/A |
| (14.3.2.3) | Terminal size | N/A |
| | Cross-sectional area (mm ²): — | — |
| (14.3.3) | Conductor space (mm).....: N/A | N/A |
| (14.4) | Mechanical tests | N/A |
| (14.4.1) | Minimum distance | N/A |
| (14.4.2) | Cannot slip out | N/A |
| (14.4.3) | Special preparation | N/A |
| (14.4.4) | Nominal diameter of thread (metric ISO thread).....: N/A | N/A |
| | External wiring | N/A |
| | No soft metal | N/A |
| (14.4.5) | Corrosion | N/A |
| (14.4.6) | Nominal diameter of thread (mm).....: N/A | N/A |
| | Torque (Nm).....: N/A | N/A |
| (14.4.7) | Between metal surfaces | N/A |
| | Lug terminal | N/A |
| | Mantle terminal | N/A |
| | Pull test; pull (N).....: N/A | N/A |
| (14.4.8) | Without undue damage | N/A |



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| | | | |
|----------------|---|----------------------------------|-----|
| ANNEX 4 | Screwless terminals (part of the luminaire) | | N/A |
| (15) | SCREWLESS TERMINALS | | N/A |
| (15.2) | Type of terminal | No screwless terminal block used | — |
| | Rated current (A) | | — |
| (15.3.1) | Material | | N/A |
| (15.3.2) | Clamping | | N/A |
| (15.3.3) | Stop | | N/A |
| (15.3.4) | Unprepared conductors | | N/A |
| (15.3.5) | Pressure on insulating material | | N/A |
| (15.3.6) | Clear connection method | | N/A |
| (15.3.7) | Clamping independently | | N/A |
| (15.3.8) | Fixed in position | | N/A |
| (15.3.10) | Conductor size | | N/A |
| | Type of conductor | | N/A |
| (15.5.1) | Terminals internal wiring | | N/A |
| (15.5.1.1) | Pull test spring-type terminals (4 N, 4 samples).....: | | N/A |
| (15.5.1.2) | Pull test pin or tab terminals (4 N, 4 samples).....: | | N/A |
| | Insertion force not exceeding 50 N | | N/A |
| (15.5.2) | Permanent connections: pull-off test (20 N) | | N/A |
| (15.6) | Electrical tests | | N/A |
| | Voltage drop (mV) after 1 h (4 samples) | | N/A |
| | Voltage drop of two inseparable joints | | N/A |
| | Number of cycles | | — |
| | Voltage drop (mV) after 10th alt. 25th cycle (4 samples) | | N/A |
| | Voltage drop (mV) after 50th alt. 100th cycle (4 samples) | | N/A |
| | After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples) | | N/A |
| | After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) | | N/A |
| (15.7) | Terminals external wiring | | N/A |
| | Terminal size and rating | | N/A |
| (15.8.1) | Pull test spring-type terminals or welded connections (4 samples); pull (N) | | N/A |
| | Pull test pin or tab terminals (4 samples); pull (N) | | N/A |
| (15.9) | Contact resistance test | | N/A |
| | Voltage drop (mV) after 1 h | | N/A |



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ULR No. TC1327825000001832F
Test Report No. TR120251215001

IS 10322 (Part 5/Sec 2):2012+A1:2015

Page 34 of 38
Date: 15/12/2025

| Terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--|---|---|---|---|---|---|---|---|---|-----|
| voltage drop (mV) | | | | | | | | | | |
| Voltage drop of two inseparable joints | | | | | | | | | | N/A |
| Voltage drop after 10th alt. 25th cycle | | | | | | | | | | N/A |
| Max. allowed voltage drop (mV) | | | | | | | | | | — |
| Terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| voltage drop (mV) | | | | | | | | | | |
| Voltage drop after 50th alt. 100th cycle | | | | | | | | | | N/A |
| Max. allowed voltage drop (mV) | | | | | | | | | | — |
| Terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| voltage drop (mV) | | | | | | | | | | |
| Continued ageing: voltage drop after 10th alt. 25th cycle | | | | | | | | | | N/A |
| Max. allowed voltage drop (mV) | | | | | | | | | | — |
| Terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| voltage drop (mV) | | | | | | | | | | |
| Continued ageing: voltage drop after 50th alt. 100th cycle | | | | | | | | | | N/A |
| Max. allowed voltage drop (mV) | | | | | | | | | | — |
| Terminal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| voltage drop (mV) | | | | | | | | | | |



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| Attachment – 2 | Photographs | |
|---------------------------|--------------------------------|--|
| | | |
| Luminaire View | | |
| | | |
| Luminaire LED View | Luminaire internal View | |



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IS 10322 (Part 5/Sec 2):2012+A1:2015

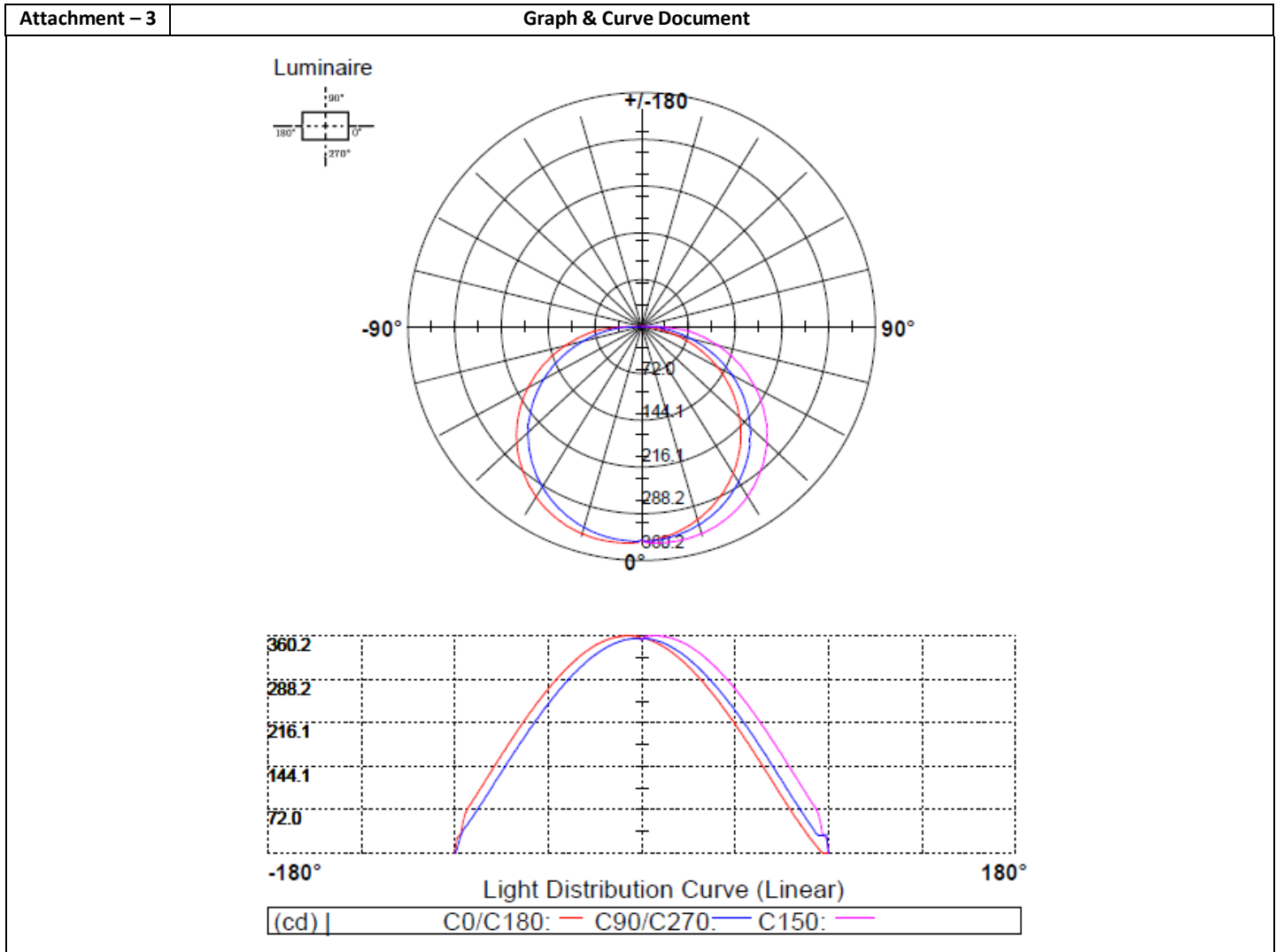
Page 36 of 38
 Date: 15/12/2025

| | |
|--------------------------------------|---------------------------------------|
| | |
| <p>Luminaire PCB Top View</p> | <p>Luminaire PCB Rear View</p> |



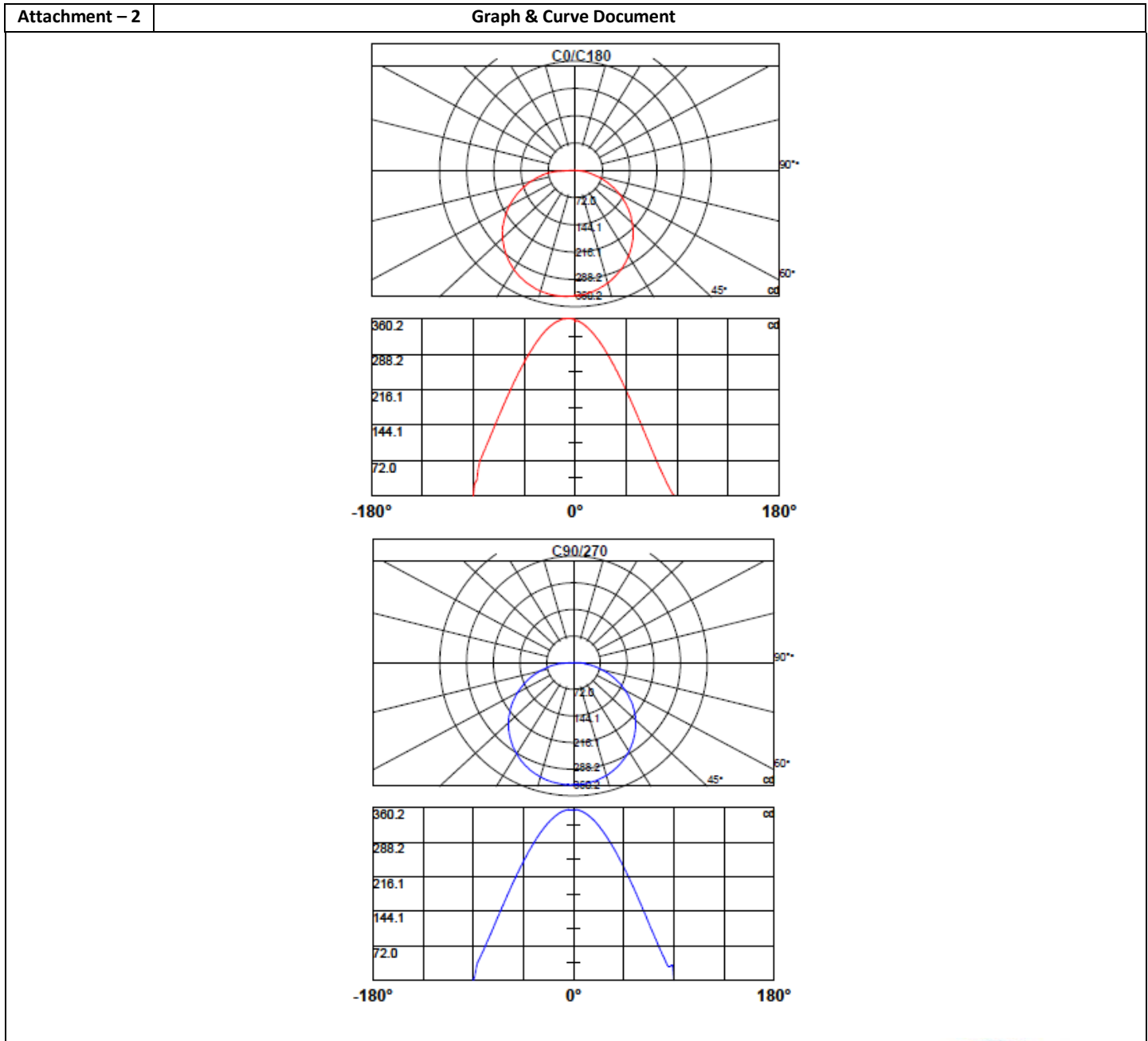
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