



中国认可  
国际互认  
检测  
TESTING  
CNAS L6478



## TEST REPORT

Reference No..... : WTF22F12247207S  
Applicant..... : Mammoth Lighting LLC  
Address..... : 7 Primrose Cir Saratoga Springs, NY 12866  
Manufacturer ..... : The same as above  
Address..... : The same as above  
Product Name..... : LED Grow light  
Model No..... : MW08, MW06  
Test specification..... : IEC 60598-1:2020  
Date of Receipt sample .... : 2022-12-08  
Date of Test ..... : 2022-12-09 to 2022-12-15  
Date of Issue..... : 2022-12-20  
Test Report Form No. .... : WST-605981-51B  
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

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Tested by:

*Carson Chen*

Carson Chen



*Mu*





## List of test items:

No.	Test Items	Requirement + Test	Result
1	IP65 Test	IEC 60598-1:2020	Pass
<p>Subcontract</p> <p>Whether parts of tests for the product have been subcontracted to other labs:</p> <p><input type="checkbox"/> Yes      <input checked="" type="checkbox"/> No</p> <p>If Yes, list the related test items and lab information:</p> <p>Test items: ---</p> <p>Lab information: --</p>			
<p>Use of uncertainty of measurement for decisions on conformity (decision rule) :</p> <p>No decision rule is specified by the standard, when comparing the measurement result with the applicable limit according to the specification in that standard.</p> <p>The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").</p>			
<p>Remarks:</p> <p>1. Ratings: 100-277V 50/60Hz</p> <p>2. All models have same dustproof and waterproof structure except size and model name.</p>			



**Test Item:**

Tests for protection against dust-proof: IP6X

**Test Method:**

The tests should be carried out under the standard atmospheric condition.

The atmospheric conditions during tests are as follows:

Temperature range: 10 °C to 30 °C.

Dust-proof luminaires (first characteristic IP numeral 6) shall be tested in a dust

Chamber similar to that shown in Figure 6, in which talcum powder is maintained in suspension by an air current. The chamber shall contain 2 kg of powder for every cubic metre of its volume. The talcum powder used shall be able to pass through a square-meshed sieve whose nominal wire diameter is 50 µm and whose nominal free distance between wires is 75 µm. It shall not have been used for more than 20 tests.

The test shall proceed as follows:

- a) The luminaire is suspended outside the dust chamber and operated at rated supply voltage until operating temperature is achieved.
- b) The luminaire, whilst still operating, is placed with the minimum disturbance in the dust chamber.
- c) The door of the dust chamber is closed.
- d) The fan/blower causing the talcum powder to be in suspension is switched on.
- e) After 1 min, the luminaire is switched off and allowed to cool for 3 h whilst the talcum powder remains in suspension.

NOTE The 1 min interval between switching on the fan/blower and switching off the luminaire is to ensure that the talcum powder is properly in suspension around the luminaire during initial cooling, which is most important with smaller luminaires. The luminaire is operated initially as in item a) to ensure the test chamber is not overheated.

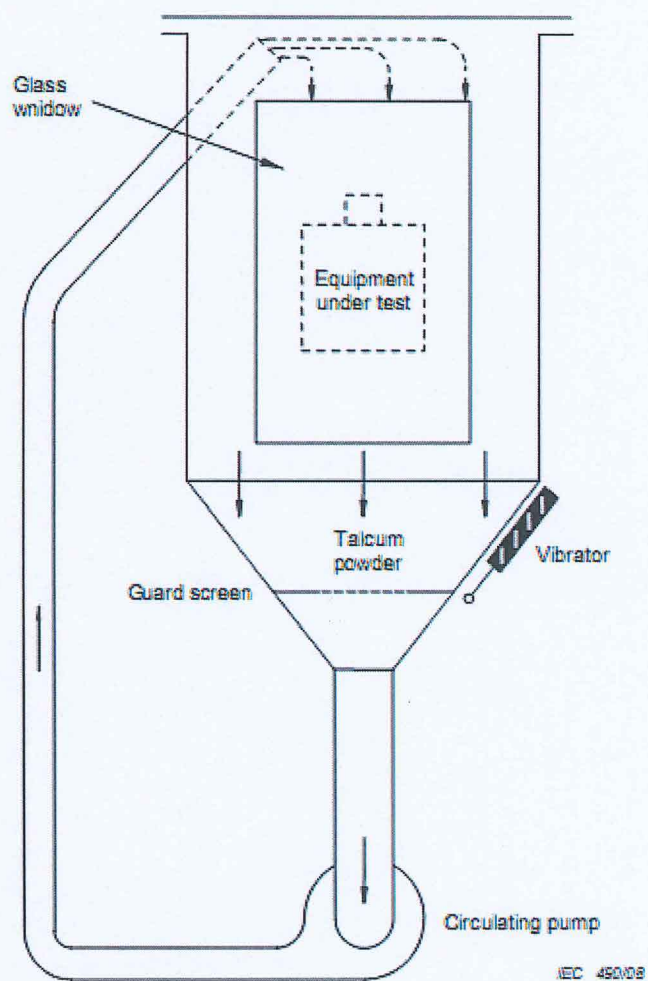
**Acceptance Conditions:**

After completion of the tests, the luminaire shall withstand the electric strength test specified in Section 10, and inspection shall show:

No deposit of talcum powder inside enclosures for dust-tight luminaires.

**Test Result:**

☒ Pass ☐ Fail



**Figure 6 – Apparatus for proving protection against dust**



**Test Item:**

Tests for protection against ingress moisture: IPX5

**Test Method:**

The tests should be carried out under the standard atmospheric condition.

The atmospheric conditions during tests are as follows:

Temperature range: 10 °C to 30 °C

The tests are conducted with fresh water.

Jet-proof luminaires (second characteristic IP numeral 5) are switched off and the test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as shown in figure 8.

The conditions to be observed are as follows:

- internal diameter of the nozzle: 6.3 mm;

- delivery rate: 12.5 l/min  $\pm 5\%$ ;

- water pressure: to be adjusted to achieve the specified delivery rate (approximately 30 kN/m<sup>2</sup>);

- core of the substantial stream: circle of approximately 40 mm diameter at 2.5 m distance from nozzle;

- Test duration per square metre of enclosure surface area likely to be sprayed: 1 min;

- test duration: 15 min

- Distance from nozzle to enclosure surface: between 3 m.

Before the tests for the second characteristic numeral, with the exception of IPX8, the luminaire complete with lamp(s) shall be switched on and brought to a stable operating temperature at rated voltage.

Test water for the tests shall be at a temperature of 15°C $\pm$ 10°C.

Luminaires shall be mounted and wired as in normal use and placed in the most unfavourable position, complete with their protective translucent covers, if any, for the tests of IP.

Where connection is made by a plug or a similar device, then this shall be regarded as part of the complete luminaire and shall be included in the tests and similarly for any separate Controlgear.

For tests of IPX1 to IPX8, a fixed luminaire intended for mounting with its body in contact with a surface shall be tested with an expanded metal spacer interposed between the luminaire and the mounting surface.

Luminaires having provision for draining water by means of drain holes shall be mounted with the lowest drain hole open unless otherwise specified in the manufacturer's installation Instructions.

For recessed luminaires, the parts in the recess and the parts protruding from the recess shall each be tested according to their IP classification as indicated in the manufacturer's mounting instructions. A box encapsulating the part in the recess may be necessary for the test of IPX3 to IPX8.

Portable luminaires, wired as in normal use, shall be placed in the most unfavourable position of normal use.

Glands, if any, shall be tightened with a torque equal to two-thirds of that applied to glands in the test of Table 4.2.

Fixing screws of covers, other than hand-operated fixing screws of glass covers, shall be tightened with a torque equal to two-thirds of that specified in Table 4.1.

Screwed lids shall be tightened with a torque having a value in newton metres numerically equal to one-tenth of the nominal diameter of the screw thread in millimetres. Screws fixing other caps shall be tightened with a torque equal to two-thirds of that specified in Table 4.1.

**Acceptance Conditions:**

After completion of the tests, the luminaire shall withstand the electric strength test specified in table 10.2, and inspection shall show:

No trace of water on electrical connections, current carrying parts or on insulation where it could become a hazard for the user or surroundings, for example where it could reduce the creepage distances below the values specified in Section 11; the only exception to this is for SELV or PELV conductors where the voltage under load does not exceed 12 V peak interrupted DC voltage for frequencies between 10 Hz and 200 Hz, 12 V RMS or 30 V ripple free DC and the conductors are protected from corrosion.

For luminaires without drain holes, there shall be no water entry.

For luminaires with drain holes, water entry including condensation is allowed during the tests if it can drain out effectively and provided it does not reduce the creepage and clearance distances below the minimum levels specified in the standard.

No trace of water on any part of a lamp requiring protection from splashing water as indicated in the "information for luminaire design" section of the applicable lamp standard;

No damage, for example, cracking or breakage of a protective shield or glass envelope, such that safety or protection against the ingress of moisture is impaired.





Test Result:

☒ Pass   ☐ Fail

Table 4.1-Torque tests on screws

Nominal outer thread diameter of screw mm	Torque Nm		
	1	2	3
Up to and including 2.8	0.20	0.40	0.40
Over 2.8 up to and including 3.0	0.25	0.50	0.50
Over 3.0 up to and including 3.2	0.30	0.60	0.50
Over 3.2 up to and including 3.6	0.40	0.80	0.60
Over 3.6 up to and including 4.1	0.70	1.20	0.60
Over 4.1 up to and including 4.7	0.80	1.80	0.90
Over 4.7 up to and including 5.3	0.80	2.00	1.00
Over 5.3 up to and including 6.0	-	2.50	1.25
Over 6.0 up to and including 8.0	-	8.00	4.00
Over 8.0 up to and including 10.0	-	17.00	8.50
Over 10.0 up to and including 12.0	-	29.00	14.50
Over 12.0 up to and including 14.0	-	48.00	24.00
Over 14.0 up to and including 16.0	-	114.00	57.00

Table 4.2-Torque tests on cable glands

Diameter of test rod mm	Moment	
	Metal cable glands Nm	Moulded plastic cable glands Nm
Up to 7	4.00	2.5
Over 7 up to 14	6.25	3.25
Over 14 up to 20	7.50	5
Over 20	10	7.50

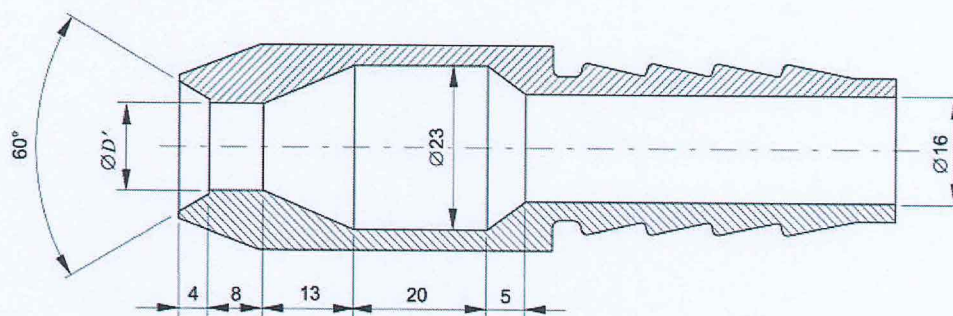




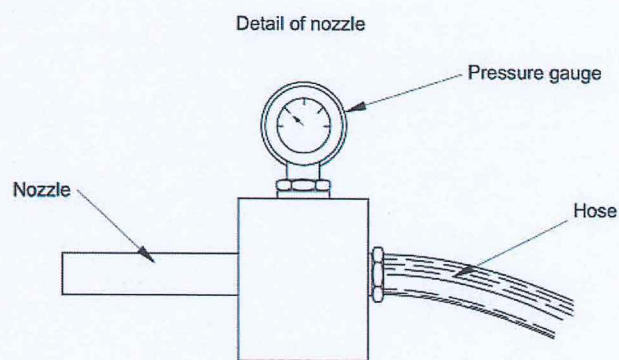
Table 10.2 Electric strength

Insulation of parts	Test voltage V		
	Class I luminaires	Class II luminaires	Class III luminaires
SELV/PELV:			
Between current-carrying parts of different polarity	a	a	a
Between current-carrying parts and the mounting surface*	a	a	a
Between current-carrying parts and metal parts of the luminaire****	a	a	a
Between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts	a	a	a
Insulating bushings as described in Section 5	a	a	a
Other than SELV/PELV:			
Between live parts of different polarity	b	b	-
Between live parts and the mounting surface*	b	b and c, or d*****	-
Between live parts and metal parts of the luminaire	b	b and c, or d*****	-
Between live parts which can become of different polarity through action of a switch	b ***	b ***	-
Between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts	b	c	-
Insulating bushings as described in Section 5	b	c	-
a Basic insulation for voltages of SELV	500		
b Basic insulation for voltages other than SELV	2U ** + 1 000		
c Supplementary insulation	2U ** + 1 000		
d Double or reinforced insulation	4U ** + 2 000		
* The mounting surface is covered with metal foil for the purpose of this test.			
** U in this case is the nominal line-to-neutral voltage of the neutral-earthed supply system. Advice can be found in IEC 60664-1.			
*** During the test, the switch may influence the result. In the case of electronic disconnection or micro disconnection according to 7.1.11 of IEC 61058-1:2000, it may be necessary to remove the switch from the circuit.			
**** This requirement does not exclude the connection of the PELV-circuits to earth for functional purposes.			
***** This table gives details for the situations where no electrical insulation is provided between the LV supply and output circuits of the controlgear. Where the controlgear provides basic or double/reinforced insulation from the LV supply, the required insulation from the live part to the accessible part, including the mounting surface, may be different. As a consequence of the requirements according to Table X.1, the test voltage may be modified.			





$D' = 6,3$  mm for the test of 9.2.6 (second characteristic numeral 5)  
 $D' = 12,5$  mm for the test of 9.2.7 (second characteristic numeral 6)



IEC 492/08

Dimensions in millimetres

**Figure 8 – Nozzle for spray test**





Photo Documentation:



Photo 1 -- MW08

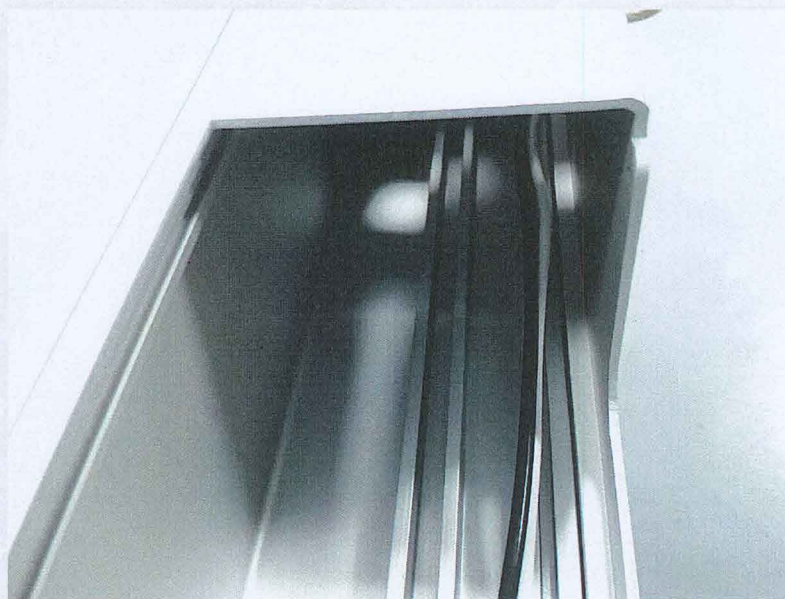


Photo 2 -- After test



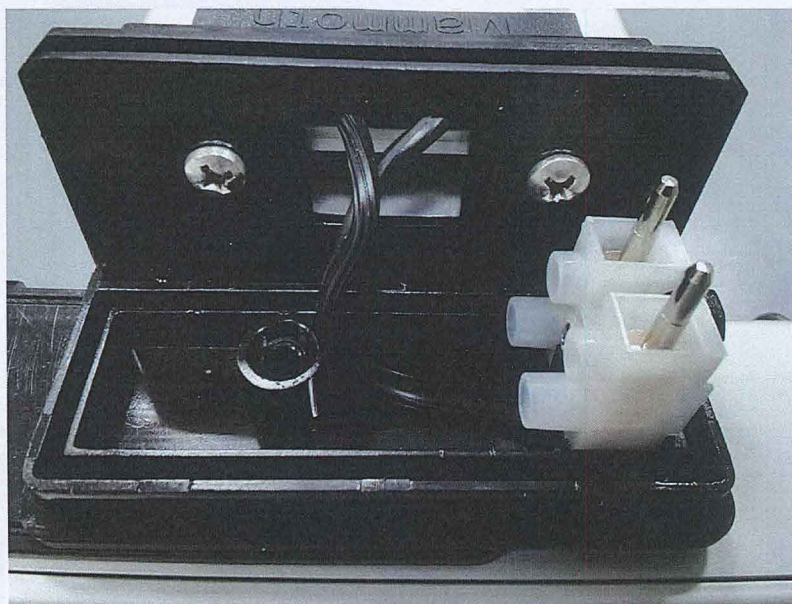


Photo 3 -- After test

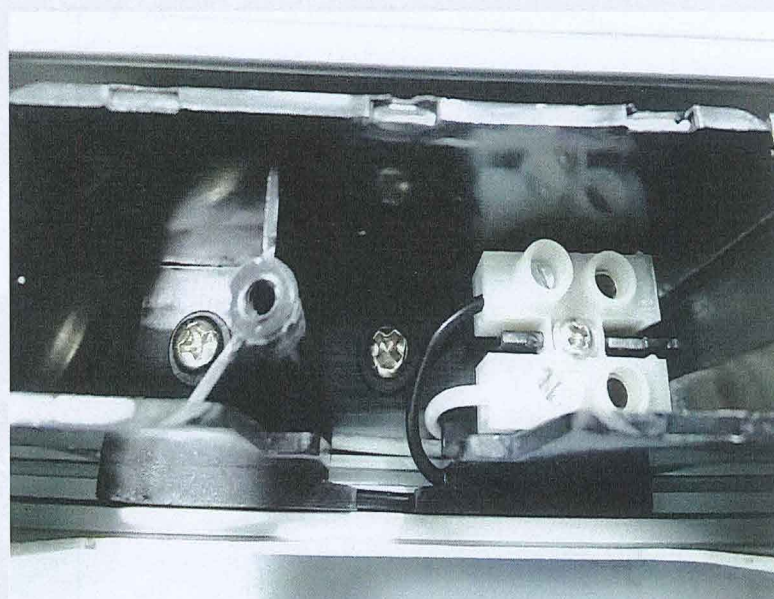


Photo 4 -- After test



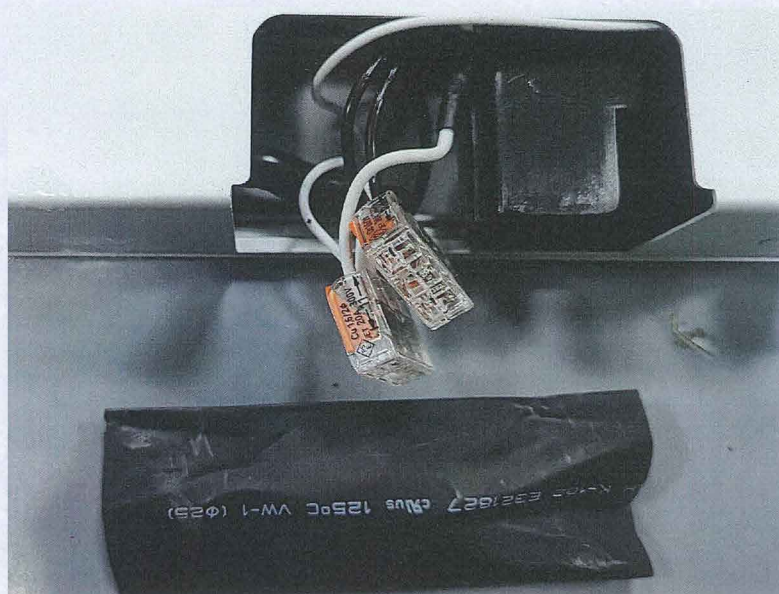


Photo 5 -- After test



Photo 6 -- After test





Photo 7 -- After test

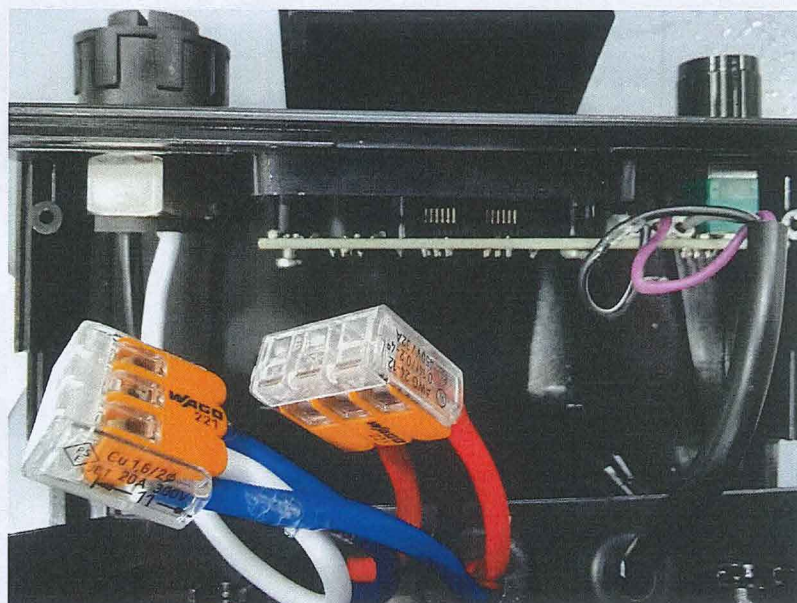


Photo 8 -- After test



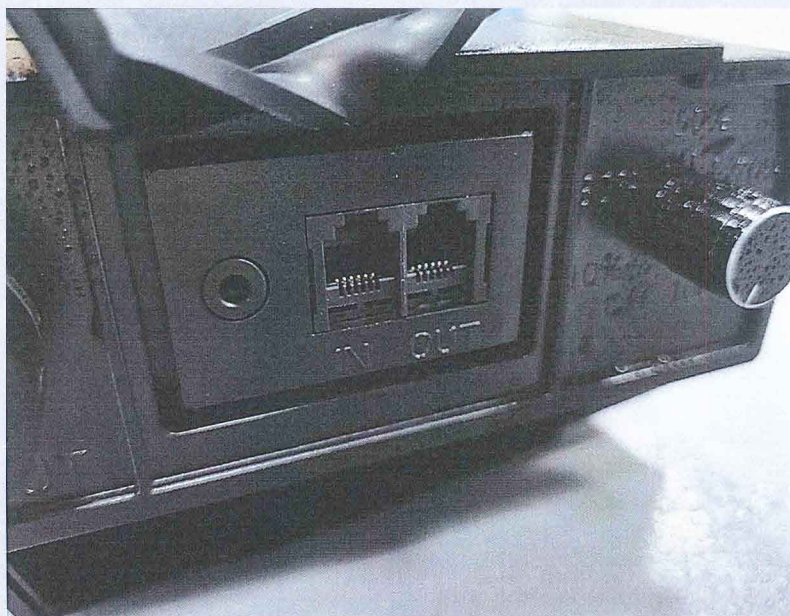


Photo 9 -- After test

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## Equipment Used during Test :

Equipment	Model/Type	Cal. Date
Test probe	FZ-1107-A	2022-03-07
Dustproof chamber	HY-FCX	2022-02-28
Force Gauge	SN-500	2022-02-28
IPX1-8 water-proof UL test equipment	KXT1318	2022-02-28
Power Meter	WT310E	2022-02-28
Dielectric & Insulation Resistance Tester	9012	2022-02-28
Caliper	CD-6 " CSX	2022-02-28
Torsion Tester	30LTDK	2022-02-28
Torsion Tester	N140TOK	2022-02-28
Torsion Tester	ETC2-030BN	2022-02-28
Measure Tape	3m	2022-03-07

===== End of Report =====

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