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For your convenience, the below describes the related updates:

For revised/new documentation, please reference 2021-12-22 in the page headings.

E71772-19850111-Description
Figure-8-Total
Illustration-12-Total
E71772-19850111-TestRecord

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File E71772 Project 84NK27158

January 11, 1985

REPORT

on

COMPONENT - FIXTURE FITTINGS

A.L.P. Lighting & Ceiling Products, Inc. Chicago, IL

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		and Report		Revised:	2021-08-03

#### DESCRIPTION

#### PRODUCT COVERED:

(USR/CNR) Components - Luminaire Fittings, - Wet location, outdoor housings for use in fluorescent **and LED** luminaires.

Complete Housing Kit Numbers: TSW-240, TDW-240, TDW-248, TDW-296, TMW-240, TMW-2408, TMW-248, TMW-296, TMWS-240, F240, F2408, F248, F296, may be followed by additional alph-numeric suffixes denoting size and finish/appearance variations.

Partial Back Housings Model Numbers: TSW-4, TDW-4, TDW-8, TMW-4, TMW-8, TMWS-4, TMWS-8, 2F, 4F, 8F,may be followed by additional alph-numeric suffixes denoting size and finish/appearance variations.

Note: All models may be provided with alpha character prefix for marketing purposes.

#### GENERAL CONSTRUCTION:

These product comply with the Standard of Underwriters Laboratories Inc. for Luminaires (UL 1598), the Section General, and the Description on the following pages.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

\*

Products designated USR have been investigated using US requirements as noted in the Test Record.

# Products designated CNR have been investigated using Canadian requirements as noted in the Test Record.

For use only in complete equipment, where the acceptability of the combination is determined by Underwriters Laboratories Inc.

#### CONDITIONS OF ACCEPTABILITY:

- 1. The plastic has only been determined to be suitable to house a metal enclosure which in turn encloses insulated or uninsulated live parts except LED Array, insulated and uninsulated live parts in class 2 circuitry.
- 2. The housing is limited to 105°C. The need for conducting a temperature test on the complete luminaire assembly shall be determined in the end use application.
- 3. The following housings have been evaluated for outdoor applications with respect to wet location. The sprinkler and rain test were performed on these housings with the diffuser families described in Vol. 2, Sec. 1 for use with Models TSDW-4, TDW-4, TDW-8, TMW4, TMW8, 2F, 4F and 8F housings.

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- 4. The Rain and Sprinkler tests were performed for Housing Kit F240 with Back Housing 4F (4 ft.) with the diffuser families described in Vol. 2, Sec. 1 which houses LED Luminaire of max. input power of 84W.
- 5. Back Housings when provided with a -GT suffix, are manufactured of the polymeric material by Interplastic, Grade 1026221 min. 1.5 mm (0.059 in.) thick and were found to comply with mold stress relief distortion and impact tests performed at -35° C and are suitable for use as an electrical enclosure. Any additional enclosure tests shall be considered in the end use application.
- 5a. The suitability of the diffuser when not provided as part of the housing, shall be determined in the end use application.
- 6. Additional openings are provided for end use choice of conduit entry not for through wiring applications.
- 7. The dimensional integrity of the polymeric housing cannot be relied upon regarding grounding continuity between metal parts forming the conduit supply system.
- 8. In the end-use application there should be a marking that indicates that all latches must be in place in order to maintain the rain tightness.
- 9. The maximum acceptable temperature on the neoprene gasket used in the conduit fittings is 60°C.
- 10. The Diffuser complies with the requirements for a water shield in accordance with UL 1598.
- 11. The Pressure Vent for Housing Kit F240 with Back Housing 4F (4 ft.) has not been evaluated for mold stress relief test and impact test and needs to be considered at the end product.
- 12. The Housing Kit F240 with Back Housing model 4F material by Interplastic Corp, grade 1026221 may be marked "Type 4X" and IP65 and IP66
- 13. The Housing Kit F240 with Back Housing model 4F with integral Pressure vent with O ring gasket material by Shin-Etsu Chemical designated KE-5612G@, MSR-1 may be marked "Type 4X" and IP65 and IP66
- 14. The Housing Kit F240 with Back Housing model 4F gasket by Rampf Group Inc. (MH17507), RAKU PUR 32-3280-xx may be marked "Type 4X" and IP65 and IP66
- 15. The Housing Kit with latches made of 304 or 316 stainless steel may be marked "Type 4X"

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HOUSING KITS, MODEL NUMBERS: TSW-240, TDW-240, TDW-248, TDW-296, TMW-240, TMW-2408, TMW-248, TMW-296, TMWS-240, F240, F2408, F258, F296 - FIG. 1-7, 8

General - See in Ill. 11 for example of Kit component assemblies. Denoting model number combinations for the back enclosure and diffuser components. Ill. 11 is not exclusive. Other Kit numbers may exist with other combinations of enclosures and diffusers described below.

- 1. Back Housings Designated by the following Model Numbers: TSW-4, TDW-4, TDW-8, TMW-4, TMW-8, TMWS-4, TMWS-8, 2F, 4F, 8F, may be followed by additional alph-numeric suffixes denoting size and finish/appearance variations. Molded of Unlisted component (QMFZ3) plastic manufactured by Molded Fiber Glass Co., Inc. Grade 5194, minimum wall 0.059 in. thick. Rated for 94HB, 105°C, and has been subjected to UL 746C ultraviolet light tests and/or water immersion. See File E71772, Report dated 1986-08-13 for details. Dimensions of different models in accordance with ILLS. 1, 2, and 5. Outer shoulder provided with minimum six notched protrusions along length for retaining latches. May be provided with openings on back or ends for conduit entry. All openings are provided with threaded plugs and gaskets (Item 7).
- 1A. Back Housing (For model 4F only) Same as above except the Back Housing has an integral Pressure Vent made of polymeric material, designated A3U42G6 by BASF SE (E41871), f1 rated, flame rating of 5VA, min. 2.0mm thick with integral silicone "O" ring gasket material by Shin-Etsu Chemical designated KE-5612G@, MSR-1 threads into Back Housing. See Fig. 8.

Alternate Pressure Vent - Any R/C (NITW2) breather vent rated Type 4X.

Alternate - R/C (QMFZ2) Premi-Glas 2205-(H)-CR-SX manufactured by Premix, Inc.

Alternate - R/C (QMFZ2) Premi-Glas 1200H-(D) manufactured by Premix, Inc.

Alternate - Any R/C (QMFZ2) glass reinforced polyester rated 94HB minimum, 105°C min (f1) all a minimum thickness of 1.5 mm.

Alternate - (suffixed-GT) - R/C (QMFZ2) by Interplastic Corp, grade 1026221, min. 1.5 mm (0.059 in.) thick (E76543).

- 2. Disregard.
- 3. Disregard.
- 4. Diffuser Optional R/C (IFFX2) Luminaire Fittings, manufactured by ALP Lighting (E71772, Vol. 2, Sec. 1) Model Numbers: TSDW-4, TDW-4, TDW-8, TMW-4, TMW-8, 2ARS, 4ARS, 8ARS, 4TARS, 8TARS, 4ARD, 4PPD, 8ARD, 8PPD, 2PPS, 4PPS, 8PPS, 4PCS, 2APS, 4APS, and TOA8 that may be followed by additional alph-numeric suffixes denoting size and finish/appearance variations. See ILLS. 8 and 9 for examples.

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- 5. Marking (Not shown or itemized) Listee's name or "E71772" and model number shall be marked on each enclosure (Item 1). Only enclosures with formed from the Interplastic material maybe be provided with suffix, "GT". When enclosure is provided with conduit fittings, installation instructions shall be provided with each unit indicating the need for the use of caulk or sealant at the threaded conduit entry or threaded plug area to maintain wet location Recognition.
- Gasket (Not itemized) Cat. No. 4215E manufactured by American National Rubber, secured by Cat. No. 9671 adhesive manufactured by 3M. See ILL. 12 for details.

Alternate - Type IVC, manufactured by Uniroyal Plastics Co. Inc.; secured by double coated polyester film, Cat. No. 5845M, manufactured by ADCHEM Corp.

Alternate - Closed-cell polyurethane foam gasket, manufactured by Ernst Sonderhoff, Fermapor K31 furnished in a two component liquid form, Parts A and B.

Alternate - Recognized Component (JMLU2) Gasket Material, FP-9020 (FP-3215), -9545 (-1215), FP-1052, manufactured by H. B. Fuller Co.

Alternate - R/C (JMLU2), Rampf Group Inc. (MH17507), RAKU PUR 32-3280-xx (rated 75°C).

- 7. Conduit Fittings Optional (Not shown). Gasketed Hub type, Die-cast zinc or aluminum with dimensions shown in ILLS. 6 and 7. Gasket is neoprene gasket 3/16 in. thick minimum with 1-11/16 and 1-5/16 in. diameters. Each fitting is provided with a lock washer and threaded plug.
- 8. Latches Components manufactured by ALP, Model numbers LCW, LCWTP, LPC, LPCTP. See File E71772, Vol. 1C, Report dated 1989-04-06 for details.

Alternate - Made of 304 or 316 stainless steel, designated LSS-3.

For series F240; the number of latches increased from 6 to 8.

# Figure-1 Page-1



# Figure-2 Page-1



# Figure-3 Page-1



# Figure-4 Page-1



# Figure-5 Page-1



# Figure-6 Page-1





# Figure-8 Page-1











- ~ -A.L.P. LIGHTING & CEILING PRODUCTS, INC. 6333 GROSS POINT ROAD • NILES, IL 60648 • (312) 774-9550 TELEX: 206-568 • FAX: 312-774-9331 DIFFUSERS WORLD HEADQUARTERS: CHICAGO, ILLINOIS U.S.A. DATE 5-29-91 D5289102 Δ D NOMINAL DIMENSIONS MODEL 2ARS00 2ARS15 2PPS00 4ARS00 4ARS15 4PPS00 4ARD00 4ARD15 4PPD00 8ARD00 8ARD15 8PPD00 C 2.25 2.25 2.25 2.25 2.25 2.25 2.25 3 3 3 3 3 3 3 3 3 3 D 26 26 49 49 49 49 49 97 97 97 DIFFUSERS -

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# TMW SERIES Gasketed Enclosures For Wet and Damp Locations

Data

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Gasketed Enclosures are dust and moisture resistant and require the installation of a striplight or channel type lighting fixture. The enclosures are composed of a fiberglass body and a high impact acrylic/DR crepe pattern diffuser positioned into the continuous gasketed upper body slot and securely held in place by celcon retaining latches that assure a continuous seal.

By installing a U.L. listed fluorescent strip light or channel type lighting fixture into the TMW Series Gasketed Enclosure and submitting the entire unit to Underwriters Laboratories, a U.L. listed fixture suitable for use in wet or damp locations can be realized.

Statistics

#### Applications:

- Food Processing Facilities
- Kitchens
- Parking Garages
- Car WashesSchools
- Government Facilities
- Government rachities
   Industrial Facilities
- Industrial Factoria
   Public Areas





SHEET FEBRUARY 1992 - R1

4' Unit

8' Unit

Approvals and/or Listings Underwriters Laboratories National Sanitation Foundation U.S. Department of Agriculture Canadian Standards Association



# **A.L.P**.

end view

LIGHTING & CEILING PRODUCTS, INC. WORLD HEADQUARTERS: CHICAGO, IL U.S.A.

# TMW SERIES **Gasketed Enclosures**

For Wet and Damp Locations

#### TMW-240

Enclosure is available in 4' length only and will accept 1 or 2 lamp, rapid start fluorescent fixtures.

#### TMW-248 and TMW-296

Enclosures will accept 1 or 2 lamp, rapid start, high output or slimline type fluorescent fixtures.

#### Specifications:

Casketed Enclosures, as manufactured by A.L.P. Lighting & Ceiling Products, Inc., shall be U.L. recognized com-& Ceiling Products, Inc., shall be U.L. recognized com-sonents and CSA component acceptance marked for wet and damp locations. These enclosures shall have a fiberglass housing with a gasketed diffuser retention slot and a high impact acrylic/DR crepe pattern diffuser. The gasketing shall be continuous, poured in place with no visible starting or ending points, thus providing a continuous seal between housing and diffuser. Provided with the builting are 6 celcon retaining latches (on 4/ with the housing are 6 celcon retaining latches (on 4' units) or 12 (on 8' units) and 2 snap-in end plugs. Meets NSF and USDA listing requirements.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



### LIGHTING & CEILING PRODUCTS, INC.

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O 1992 A.L.P. LIGHTING & CEILING PRODUCTS, INC.

PRINTED IN THE U.S.A.

GETMW 02281

#### **Ordering:**

Catalog No.	Description
COMPLETE U	NITS
TMW-240	4' Housing, Shallow High Impact Acrylic / DR Diffuser, Latches & End Plugs
TMW-248	4' Housing, Deep High Impact Acrylic / DR Diffuser, Latches & End Plugs
TMW-296	8' Housing, Deep High Impact Acrylic / DR Diffuser, Latches & End Plugs

NOTE: All complete units are approved and / or listed U.L., CSA, NSF. and USDA as Standard.

By installing a U.L. listed fluorescent strip light or channel type lighting, fixture into the TMW Series Gasketed Enclosure and submitting the en-tire unit to Underwriters Laboratories, a U.L. listed fixture suitable for use in wet or damp locations can be realized.

REPLACEMENT DIFFUSERS									
TMW-4-D15	4' Shallow High Impact Acrylic / DR Clear Crepe Diffuser								
TMW-4-0015	4' Deep High Impact Acrylic / DR Clear Crepe Diffuser*								
TMW-8-DD15	8' Deep High Impact Acrylic / DR Clear Crepe Diffuser *								

Extra LCW white latches and FEPW white end plugs are NOTE: available upon request. Polycarbonate latches and tamper proof latches are also available. Other replacement diffusers are available. (Opal, Prismatic Polycarbonate, 100% DR), contact A.L.P. with requirement. \* Deep diffusers are 1\* deeper than shallow.

#### Features:

STRUCTURALLY RIGID FIBERGLASS BODY

Fiberglass is reinforced polyester and self-extinguishing (ASTM D635-74). This type of construction does not allow the body to flex during handling and installation. CASKETED DIFFUSER RETENTION SLOT The gasketed inverted U slot provides a positive continuous seal between body and diffuser.

BRASS FIXTURE MOUNTING STUD The fixture studs are integrally molded into the body to facilitate lighting fixture installation.

HIGH IMPACT ACRYLIC / DR DIFFUSER Internal crepe pattern allows a smooth exterior surface for ease of cleaning. DIFFUSER The diffuser flange fits snugly into the gasketed retention slot forming a

A.L.P.

# Illustration-10 Page-1

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#### SAMPLES:

A sample of the ceiling-mounted fixture fitting described in this Report was submitted by the manufacturer and subjected to the following tests.

#### RAIN TEST:

#### METHOD

The fixture fitting was mounted in the intended manner and subjected to water which simulated a beating rain for a period of 1 h. The fixture fitting was wiped dry, opened and inspected.

### RESULTS

Upon completion of the above test the unit was examined and showed no evidence of water entering the enclosure.

\*Page T1-2 Issued: 1-11-85 New: 12-2-88

IMPACT TEST:

#### METHOD

Prior to the sprinkler test, three samples of the water shield formed of Rohm and Haas Type DR 0.062 in. thick were mounted as intended to a rigid supporting surface and subjected to a single impact force of 3 ft lb using a 2 in. diameter steel ball weighing 1.18 lb.

#### RESULTS

Sample No.	Area Of Impact		Comme	ents	5
1	Corner	No	damage	to	diffuser
2	Side (middle) edge	No	damage	to	diffuser
3	Top (middle) edge	No	damage	to	diffuser

All parts of the water shield were still attached to the enclosure.

#### SPRINKLER TEST:

#### METHOD

The surface mounted ceiling fixture fitting was mounted as intended, and any openings in the back of the fixture fitting was sealed with plastic, tape, or the like to simulate a watertight seal between the fixture and building structure.

A fixture was operated at rated ballast voltage for 1/2 h, followed by removal and replacement of any or all movable or replaceable parts serving to compress the gaskets.

The water spray test apparatus consisted of a standard spray head mounted to a water supply pipe facing up at a 45° angle from the horizontal, positioned from 3 to 6 in. from the floor. The fixture enclosure was positioned with the dimensional center of the fixture on a line projected from the centerline of the nozzle head, but not more than 36 in. away measured horizontally, and in the area of the spray head so that the greatest quantity of water was likely to enter the enclosure. The water pressure was maintained at 20 lb/in.<sup>2</sup> (137.9 kPa) at the spray head.

The water and lamp, during this sprinkler test, were operated in the following operating sequence:

Duration, h	Lamp	Water
1	On	Off
1/2	Off	On
2	On	On
1/2	Off	On

The fixture fitting was turned about its vertical axis to each of four positions, 90° from each other, each for 30 min during the 2 h portion of the above sequence.

#### RESULTS

No water entered the fixture fitting.

New: 12-2-88

#### SAMPLE:

Samples of Gasket No. SCE-41 and Adhesive No. RE-41-E1 were submitted by the manufacturer. They were found to be constructed as described in the preceding section of this Report.

The samples were subjected to the following tests:

TENSILE STRENGTH TEST:

#### METHOD

Tensile strength, and elongation measurements were conducted on the foamed gaskets at a crosshead speed of 20 in./min. The gaskets were die-cut using die D.

#### RESULTS

Results are as follows:

<u>As Received</u> -	Foamed Gaskets
Average Tensile Strength, psi	80
Average Elongation, percent	140
After 7-Day Air Oven Aging At 70°C	-
Average Tensile Strength, psi	73
Percent of Original	91
Average Elongation, percent	110
Percent of Original	79

#### ADHESION TEST:

#### METHOD

Adhesion tests were conducted on specimens of the foamed gaskets applied to white plastic panels. Strips of gasketing material were pulled, one at a time, from the test panel at an angle of approximately 90° at a crosshead speed of 0.5 in./min. Specimens were tested in the as-received condition, 1/2 h and 24 h after removal from the oven. Prior to testing, test panels were conditioned at 23°C and 50 percent RH.

\*Page T1-5 Issued: 1-11-85 New: 12-2-88

### RESULTS

Results are as follows:

As Received -	Foamed Gaskets Applied To White Plastic Panels
Average Pounds Per Inch of Width	3.0
After 7-Day Oven Aging At 70°C -	
1/2 h After Removal	
Average Pounds Per Inch of Width Percent of Original	4.0 133
24 h After Removal	
Average Pounds Per Inch of Width Percent of Original	3.0 100

## TEST RECORD NO. 2

#### SAMPLE:

Production samples of this Applicant's rain shields for fixtures were submitted and constructed as illustrated by Fig. 1 of this Report. Tests were deemed unnecessary due to tests in File E79067, Report dated June 12, 1981.

### $T \_ E \_ S \_ T \_ R \_ E \_ C \_ O \_ R \_ D \_ N \_ O. \_ 3$

### SAMPLES:

Samples of the product covered by this Report were reviewed by a representative of Underwriters Laboratories Inc. No tests were considered necessary due to tests conducted on gasket and adhesive in Test Record No. 2 of this Report.

### TEST RECORD NO. 4

### SAMPLES:

Samples of Model Nos. 2F, 4F and 8F were submitted by the manufacturer. They were found to be constructed as described in ILLS. 3 through 5 of this Report.

Due to the similarity of these products to previously Listed models in this Report for this manufacturer, no tests were considered necessary.

File E71772 \*Page T5-1 of 2 Issued: 1-11-85 New: 12-11-

91

TEST RECORD NO. 5

#### SAMPLES:

Test samples of the Fermapor K31 foam gasket described in Fig. 1 were submitted and subjected to the following tests.

#### TENSILE STRENGTH TEST:

#### METHOD

Tensile strength and elongation measurements were conducted on the foamed gasket at a crosshead speed of 20 in./min. The gasket was dye-cut using Dye C.

#### RESULTS

Results are as follows:

	As Received	Foamed Gasket
Average	Tensile Strength, psi	42
Average	Elongation, percent	110
	After 7-Day Air Oven Aging a	t 100°C
Average	Tensile Strength, psi	43
Percent	of Original	102
Average	Elongation, percent	100
Percent	of Original	91

ADHESION TEST:

#### METHOD

Adhesion Tests were conducted on specimens of the foamed gasket applied to plastic panels. Strips of gasketing material were pulled, one at a time, from the test panel at an angle of approximately 90° at a crosshead speed of 0.5 in./min. Specimens were tested in the as-received condition, and 1/2 h and 24 h after removal from the oven. Prior to testing, test panels were conditioned at 23°C and 50 percent RH.

 File E71772
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91

#### RESULTS

Results are as follows:

Foamed Gasket

Applied	roalled Gasket
As received	to Plastic
Panels	
Average Pounds per in of Width	0.8
After 7-Day Oven Aging at 100	<u>0°C</u> –
(1/2 h after removal)	
Average Pounds Per in of Width Percent of Original	1.1 138
(24 h of removal)	
Average Pounds Per in of Width Percent of Original	1.0 125

### T E S T R E C O R D N O. 6

#### SAMPLES:

Samples of the polymeric enclosures described in Fig. 1 were submitted with the additional conduit fittings as shown in ILLS. 3 and 4. The test was conducted with the enclosure containing both fittings. Test results relate only to the items tested.

#### RAIN TEST:

#### METHOD

The fixture was operated at ballast voltage for 1/2 h, followed by removal and replacement of any or all movable or replaceable parts serving to compress the gaskets. The lamp wattage was 40 W. The fixture was then fitted with the intended supply connection means, and mounted to a wall horizontally as intended.

The water spray test apparatus consisted of three spray heads mounted to a water supply pipe rack. The enclosure was positioned in the focal area of the spray heads so that the greatest quantity of water was likely to enter the enclosure. The water pressure was maintained at 5  $lb/in.^2$  (34.5 kPa) at each spray head.

The water and lamp, during this rain test, were operated in the following operating sequence:

Duration in Hours	Lamp	Water
$\perp$	On	OÍÍ
1/2	Off	On
2	On	On
1/2	Off	On
	RESULTS	

Some water entered the fixture but there was no wetting of live parts.

This result was considered to be acceptable.

# $\underline{\mathrm{T}} \ \underline{\mathrm{E}} \ \underline{\mathrm{S}} \ \underline{\mathrm{T}} \quad \underline{\mathrm{R}} \ \underline{\mathrm{E}} \ \underline{\mathrm{C}} \ \underline{\mathrm{O}} \ \underline{\mathrm{R}} \ \underline{\mathrm{D}} \quad \underline{\mathrm{N}} \ \underline{\mathrm{O}}. \quad \underline{7}$

As R/C (JMST2) Gasket Materials FP-9545 (-1215) and FP-3215 are considered equivalent to FP-9020, no tests were considered necessary.

 
 File E71772
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 Issued: 1-11-85
 New: 5-9-01

TEST RECORD NO. 8

No tests were considered necessary for the addition of the alternate location for the conduit entry holes.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with applicable requirements, and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by: MARIA N. MOLINA-MARRERO Senior Project Engineer

Reviewed by: WALTER G. DAUS Staff Engineer

 
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 \*Page T9-1 of 1
 Issued: 1985-01-11
 New: 2002-11-19

TEST RECORD NO. 9

No tests were considered necessary for the addition of HB Fuller Co., FP-1052 gasket.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with applicable requirements, and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by: LINN A. BANKS Project Handler

Reviewed by: FRED RETTER Project Engineer

#### TEST RECORD NO. 10

#### SAMPLES:

A sample of the T Series as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

GENERAL:

Test results relate only to the items tested.

The following tests were conducted.

Test Name:	Section/Clause
Gasket Adhesion	13.5.11

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in the Standard for Luminaires, UL 1598, 1st Edition.

Test Record Summary:

The results of this investigation indicate that the product(s) evaluated comply with applicable requirements, and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by: LYNN BANKS Project Handler I Reviewed by: FRED RETTER Senior Project Engineer

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TEST RECORD NO. 11:

A sample of the alternate Luminaire fitting 2F, 4F, and 8F enclosure, as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

Tests were considered covered as follows:

Test	File	Report	Test Record
	Reference	Date	No.
Gasket Adhesive Test	E71772	1985-01-11	10

The Model 4F, with suffix GT, was used for test purposes and considered representative of the entire series.

GENERAL:

Test results relate only to the items tested.

The following tests were conducted.

		TESTS
Ball Impact	Test:	
Mold-Stress	Relief Distortion	Test:

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in Standard for Luminaires, UL 1598, Edition 2.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:

Reviewed by:

Jerry Catherine		Walter G	G. Daus
Associate Project	Engineer	Staff Er	ngineer

Page T12-1 of 1 Issued: 1985-01-11 New: 2005-11-08

TEST RECORD NO. 12

No tests were considered necessary for the addition of the alternate enclosure unlisted component polyester material, Interplastic MPD Cat. No. 1026221, since all required testing was performed by Test Record No. 11 in this report.

This material, Cat. No. 1026221, was used for test purposes and considered representative the complete housing series.

GENERAL:

Test results relate only to the items tested.

ENGINEERING USE ONLY:

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in Standard for Luminaires, UL 1598.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with applicable requirements, and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:

Reviewed by:

JERRY CATHERINE Associate Project Engineer WALTER G. DAUS Staff Engineer

#### TEST RECORD NO. 13

#### SAMPLES:

Information of the Luminaire Fittings as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

Alternate Construction Details: Addition of Aluminum as alternate conduit fitting material.

#### GENERAL:

Testing with the addition of Aluminum as an alternate material used in conduit fittings was not considered necessary since the wall thickness of each material will remain the same.

#### Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in The Standard For Safety For Luminaires, UL 1598, Second Edition, Revised December 30, 2004 and C22.2 No. 250.0-04, Second Edition, Revised December 30, 2004 and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:	Reviewed by:
JULIANNE F. MEDENILLA	FRED RETTER
Associate Project Engineer	Staff Engineer

TEST RECORD NO. 14 SAMPLES:

A sample of the alternate construction Model Nos. TSW-4, TDW-4 or -8; TMW-240, -248, -296; TMW-8, 2F, 4F or 8F; 2F, 4F, 8F, TMW4, and TMW8 as indicated below and constructed as described within this report, was submitted by the manufacturer for examination and test.

Luminaire Fittings Wet location, outdoor water shields for use in fluorescent luminaries - Model TMW4 molded from alternate polymeric material, Unlisted Component (QMFZ3) by Molded Fiber Glass Co. Inc., Grade MPD F008221 (f1).

The following tests were considered applicable for this alternate construction: Mold Stress and Ball Impact.

#### GENERAL:

Additional tests were not considered necessary due to tests conducted in Test Record 11.

The following tests were waived since they were covered as a Condition of Acceptability:

	Rationale			Test
	for Waived	File	Report	Record
Test	Test <sup>+</sup>	Reference	Date	No.
Mold Stress	1	E71772	1985-01-11	11
Ball Impact	1	E71772	1985-01-11	11

1. Similarity to currently Listed products, Model Nos. TSW-4, TDW-4 or -8; TMW-240, -248, -296; TMW-8, 2F, 4F or 8F; 2F, 4F, 8F, TMW4, and TMW8. Differences between the products are provided with alternate enclosure material, Unlisted Component (QMFZ3) by Molded Fiber Glass Co. Inc., Grade MPD F008221 (f1).

#### Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standards noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

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		Edition or	Latest
		Publication	Revision
Standard	Title	Date	Date
UL 1598	Luminaires	2 <sup>nd</sup> Edition	May 31, 2006
CSA C22.2 No.			
250.0-04	Luminaires	2 <sup>nd</sup> Edition	May 31, 2006

Test Record by:

Reviewed by:

Jamie Davis	Juan M. Caamaño Jr.
Project Handler II	Staff Engineer

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Issued: 1985-01-11 Revised: 2013-02-23

TEST RECORD NO. 15:

Samples of the plastic material, Interplastic Corp No. 1026221, as indicated below and constructed as described herein, were submitted by the manufacturer for examination and test.

The plastic material, Interplastic Corp Material designation 1026221, 1.5 mm thickness, was additionally tested for the purpose of determining suitability for use as enclosure per UL 1598 requirements.

GENERAL:

Test results relate only to the plastic material tested.

The following tests were conducted.

Five-Inch Flame:			Clause	e 16.3
Mold Stress Relief:			Clause	e 16.4
Polymeric Impact:	Clauses	11.7.2.2,	16.41,	19.21

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard(s) noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Edition or Revis	
		Publication	Date
		Date	
UL 1598	Luminiares	3rd	2012-10-17
CSA C22.2 No.			
250.08			

Test Record by:

Richard Kenner

Engineering Assoc

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Page T16-1 of 1 Issued: 1985-01-11 New: 2015-03-31

#### TEST RECORD NO. 16:

Samples of the Luminaire Fittings, housing kit models TSW-240, TDW-240, TDW-248, TDW-296, TMW-240, TMW-2408, TMW-248, TMW-296, TMWS-240, F240, F2408, F258, and F296, as indicated below and constructed as described herein, were submitted by the manufacturer for examination and test.

#### GENERAL:

No tests were required to revise the report. The polymeric material by Interplastic Corp, grade 1026221, was updated to reflect the Recognized Component QMFZ2 file E76543 dated 2015-01-31, instead of the original Unlisted Component QMFZ3 file. No changes to the product construction.

#### Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard(s) noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Edition	Revision
			Date
UL 1598	Luminaires	3rd	2012-10-17
CSA C22.2 No.	Luminaires	3rd	2012-10-01
250.08			

Evaluated by:

MICHAEL HAMILTON Project Engineer

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TEST RECORD NO. 17:

Samples of the Luminaire Fittings, housing kit models TSW-240, TDW-240, TDW-248, TDW-296, TMW-240, TMW-2408, TMW-248, TMW-296, TMWS-240, F240, F2408, F258, and F296, as indicated below and constructed as described herein, were submitted by the manufacturer for examination and test.

### GENERAL:

No tests were required to revise the gasket material Chemque Inc, Chem Cast 621 to Rampf Group Inc. RAKU PUR 32-3280-xx based on Engineering judgement.

#### TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard(s) noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Edition	Revision Date
CSA C22.2 No. 250.08	Luminaires	3rd	2012-10-01
UL 1598	Luminaires	3rd	2012-10-17

Evaluated by:

Reviewed by:

Lisa Cherry Senior Engineering Associate Ken Fetzer Staff Engineer

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TEST RECORD NO. 18:

Samples of the Luminaire Fittings, constructed as described herein, were submitted by the manufacturer for examination and test.

GENERAL:

No tests were required to revise the CofAs to clarify the requirement for water shield.

TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard(s) noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Standard	Title	Edition	Revision Date
UL 1598/CSA C22.2 No.	Luminaires	3rd	2012-10-17
250.08			

Evaluated by:

Reviewed by:

Lisa Cherry Senior Engineering Associate Michael Hamilton Project Engineer

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TEST RECORD NO. 19:

Samples of the Luminaire Fitting model F240 with Back Housing designated 4F, constructed as described herein, was submitted by the manufacturer for examination and test.

GENERAL:

The Luminaire Fitting model F240 with Back Housing designated 4F was tested as LED luminaire with 84W input power; it was determined that only Rain and Sprinkler testes were deemed necessary.

Test results relate only to the items tested. The following tests were conducted:

RAIN TEST	UL 1598, CLAUSE 16.5.2
SPRINKLER TEST	UL 1598, CLAUSE 16.5.3

#### TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard(s) noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

			Latest Revision
Standard	Title	Edition	Date
CSA C22.2 No. 250.0	Luminaires	3rd	2012-10-01
UL 1598	Luminaires	3rd	2012-10-17

Reported by:

Reviewed by:

Hossein Compani Senior Engineering Associate

Yihua Yuan Staff Engineer

Page T20-1 of 1 Issued: 1985-01-11 New: 2021-08-03

TEST RECORD NO. 20:

Sample of the Housing Kit model F240 with Back Housing designated 4F, constructed as described herein, was submitted by the manufacturer for examination and test.

GENERAL:

The Housing kit model F240 with Back Housing designated 4F was evaluated for "Type 4X" in report E71772 dated 2021-04-26 (Vol. 2C, Sec. 1)

#### TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard(s) noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

			Latest Revision
Standard	Title	Edition	Date
CSA C22.2 No. 250.0	Luminaires	3rd	2012-10-01
UL 1598	Luminaires	3rd	2012-10-17

Reported by:

Reviewed by:

Hossein Compani Senior Engineering Associate

Yihua Yuan Staff Engineer

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Issued: 1985-01-11 New: 2021-12-22

TEST RECORD NO. 21:

Sample of the Housing Kit model F240 with Back Housing designated 4F, constructed as described herein, was submitted by the manufacturer for examination and test.

GENERAL:

The Housing kit model F240 with Back Housing designated 4F was evaluated for IP65 and IP66.

Model Tested	Tests Conducted	Represents series/models	Rationale
Housing Kit F240 with Back Housing model 4F	IP66	Same model with IP65	IP66 is more severe test than IP65

Test results relate only to the items tested. The following test was conducted:

IP66	IEC 60529, ed. 2.2, 2013-08, Corr. 1, 2013-10,
	Corr. 2, 2015-01, CLAUSE 13.4 and 14.2.6

TEST RECORD SUMMARY:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard(s) noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

			Latest Revision
Standard	Title	Edition	Date
CSA C22.2 No. 250.0	Luminaires	5 <sup>th</sup>	2021-06-18
UL 1598	Luminaires	5 <sup>th</sup>	2021-06-18

Reported by:

Reviewed by:

Allison Engineer

Hossein Compani		Randy
Senior Engineer:	ing Associate	Staff

### <u>CONCLUSION</u>

Samples of the products covered by this Report have been found to comply with the requirements covering the class and the products are judged to be eligible for Component Recognition and Follow-Up Service. Under the Service the manufacturer is authorized to use the Recognized Marking described in the FollowUp Service Procedure on such products which comply with said Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those products which properly bear the Recognized Marking are considered as Recognized Components by Underwriters Laboratories Inc.

Report by:

Reviewed by:

G. N. VANDER TILL Associate Project Engineer Electrical Department

K. HAAS Engineering Group Leader Electrical Department