



LED Troffer

TT

Transparent Optics



### Product Ordering Guide

Sample

TT24-DM-04 W



#### 1. Base Model

TT

#### 2. Dimension

- 22 2'x2'
- 24 2'x4'

#### 3. Dimming

1-10V

#### 4. CCT

04 CCT Adjustable Version

#### 5. Wattage

W Wattage Adjustable Version

### Optional Ordering Guide

#### Optional Input Voltage

- 100-277V AC
- 110-347V AC

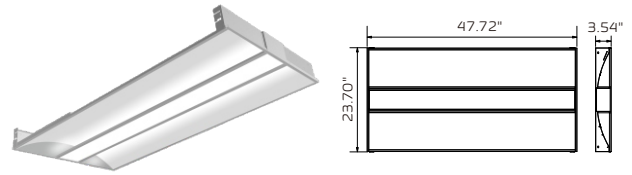
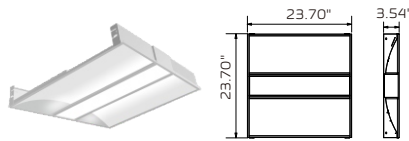
#### Optional Function

- Emergency
- Sensor

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## Specification



Model No.	TT22-DM-04W	TT24-DM-04W
Dimension	2x2ft	2x4ft
Wattage Adjustable (By Dip Switch)	30W, 35W and 40W	30W, 40W and 50W
CCT Adjustable (By Dip Switch)	3000K, 3500K and 4000K	3000K, 3500K and 4000K
Efficacy @ 3500K	110 lm/w	110 lm/w
100-277V AC Input	✓	✓
110-347V AC Input Option*	✓	✓

\*110-347VAC version is only cULus Listed  
All efficacy is ±5% base on different CCT. Check the IES file to gain the accurate data.

## Product Performance

### Optics

It offers unique transparent optics to enhance the fixture aesthetic. fully- uniform transparent optics provide uniform, low-glare illumination for a clean, modern, upgraded look, creating direct and indirect light distribution.

### Construction

Extruded aluminum housing.

### Finish

Powder coat white finish provides uniform finish providing long term performance and superior aesthetic.

### Electrical

**LED Driver** It is powered by Class 2 high efficiency LED driver, with a standard 1-10V driver which continuous dims to 10% that works with many types of controls. Tested Dimmers: Lutron® Diva-Dvtv, Leviton® IP-710-DL.

**THD** <20%

**Power Factor** >0.9

**Input Voltage** Standard electronic drivers are cULus recognized and available for 100-277V or 110-347V.

### Warranty

5-year Limited Warranty

### Weight

2'x2' FT : 12 lbs / 5.4 kg      2'x4' : 20 lbs / 9 kg

### LED System

<b>CRI</b>	Minimum 80 color rendering index
<b>CCT</b>	CCT adjustable from 3000K, 3500K and 4000K with a great color consistency
<b>LED</b>	life Minimum 50,000h with 87.8% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
<b>Thermal Management</b>	Aluminum housing acting as the heat sink to maximize life.
<b>Environment</b>	Damp rated in operating ambient temperatures of 0-50°C .

### Mounting

Recessed

### Approvals

- cULus listed for damp locations
- Tested to IESNA LM-79 and LM-80
- DesignLights Consortium Qualified and classified for DLC Standard, refer to [www.designlights.org](http://www.designlights.org) for details

### Optional Function

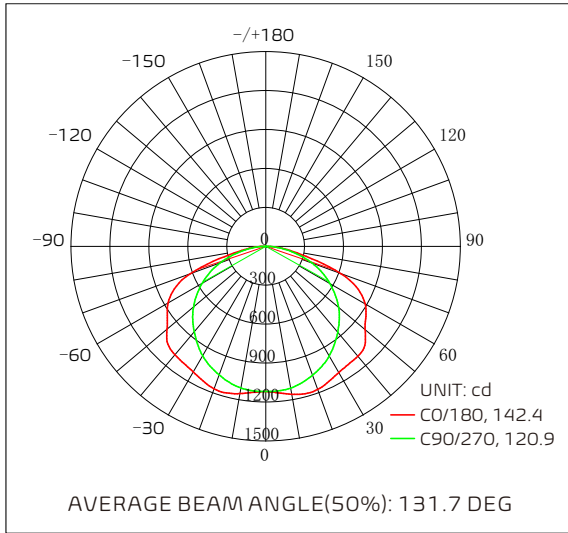
<b>Sensor Option</b>	In addition, it can include a factory-installed integrated sensor system for occupancy and daylight dimming control.
<b>Emergency Option</b>	Optional low voltage 100-277V emergency LED driver for lighting up to 120 minutes in event of power failure, that meets critical life-safety lighting requirements.

## Photometry for 2X2ft 40w 3500k 120v

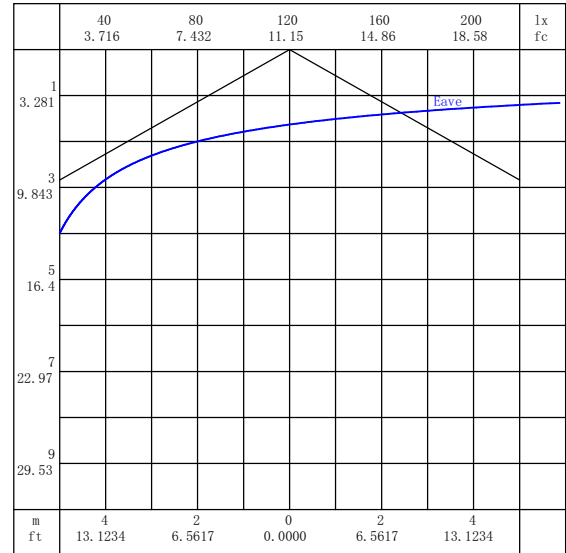
Fixture photometry has been conducted accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a fixture efficiency of 100%. Result may vary per actual order.

### Luminous Intensity Distribution Diagram

TT22-DM-04W-35K-120V



### Average Illuminance Curve



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

### Zonal Flux Diagram

T	C0	C45	C90	C135	C180	C225	C270	C315
10	1157	1135	1109	1132	1152	1130	1108	1134
20	1173	1137	1056	1130	1168	1127	1053	1133
30	1124	1084	977.9	1075	1118	1073	974.1	1077
40	1105	998.6	863.3	985.1	1090	982.9	858.5	985.8
50	999.8	923.2	733.5	902.0	992.9	903.0	727.2	907.3
60	883.4	772.7	570.2	758.8	868.6	755.3	564.6	757.3
70	615.3	567.1	381.9	552.9	618.6	552.2	375.9	553.4
80	191.9	213.5	168.0	217.0	190.9	206.2	161.3	206.0
90	1.700	1.859	1.366	1.957	2.187	1.148	0.8020	1.977

DEG LUMINOUS INTENSITY:cd

### Zonal Lumen Summary

T	φ zone	φ total	%lum,lamp
0-10	107.6	107.6	2.58,2.92
10-20	320.4	428.0	10.2,11.6
20-30	507.4	935.2	22.4,25.4
30-40	643.9	1579	37.8,42.8
40-50	730.7	2310	55.3,62.6
50-60	733.8	3044	72.9,82.5
60-70	641.9	3686	88.2,99.9
70-80	384.2	4070	97.4,110
80-90	94.62	4164	99.7,113

UNIT: lm

### Coefficients Of Utilization

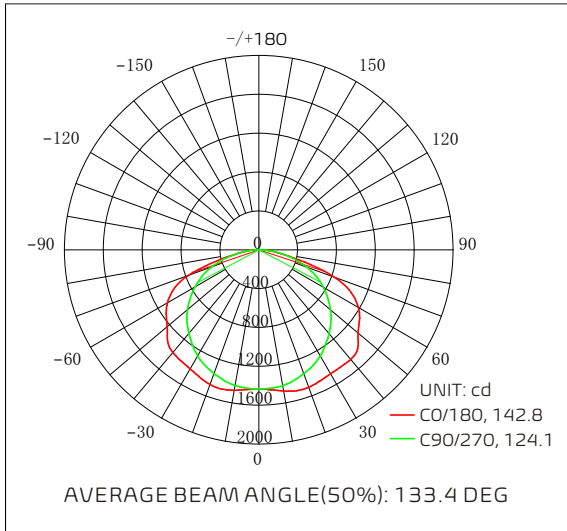
ppc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
pw	20%			20%			20%			20%			20%			0
pfc	20%			20%			20%			20%			20%			
RCR	RCR:Room Cavity Ratio (CU)															
0.0	135	135	135	132	132	132	126	126	126	120	120	120	115	115	115	113
1.0	116	111	106	113	109	104	108	104	101	104	101	98	0	97	95	92
2.0	0	91	84	97	90	83	93	87	81	89	84	79	86	81	77	75
3.0	86	76	69	85	75	68	81	73	67	78	71	65	75	69	64	61
4.0	76	65	57	74	64	57	71	63	56	68	61	55	66	59	54	51
5.0	67	56	48	66	56	48	63	54	47	61	53	47	59	52	46	44
6.0	60	49	42	59	49	41	57	48	41	55	47	41	53	46	40	38
7.0	54	44	36	53	43	36	51	42	36	50	42	36	48	41	35	33
8.0	49	39	32	48	39	32	47	38	32	45	37	32	44	37	31	29
9.0	45	35	29	44	35	29	43	34	28	42	34	28	40	33	28	26
10.0	41	32	26	41	32	26	40	31	26	38	31	26	37	30	25	23

## Photometry for 2X4ft 50w 3500k 120v

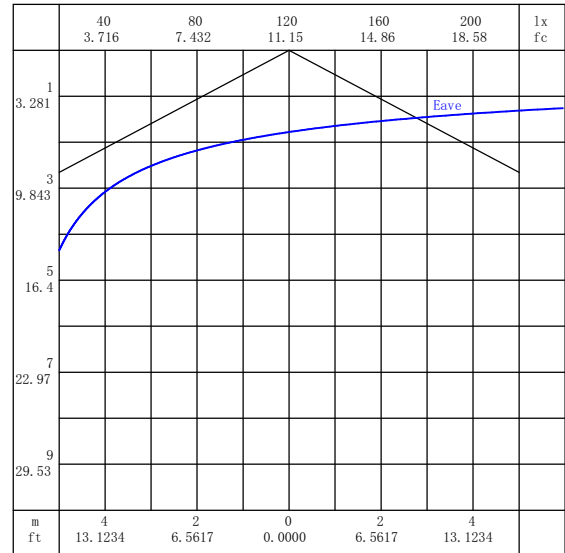
Fixture photometry has been conducted accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a fixture efficiency of 100%. Result may vary per actual order.

### Luminous Intensity Distribution Diagram

TT24-DM-04W-35K-120V



### Average Illuminance Curve



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

### Zonal Flux Diagram

T	C0	C45	C90	C135	C180	C225	C270	C315
10	1476	1453	1419	1442	1467	1442	1418	1445
20	1506	1462	1356	1431	1475	1437	1355	1446
30	1475	1412	1264	1363	1415	1372	1261	1392
40	1472	1332	1124	1261	1380	1274	1120	1304
50	1334	1257	965.4	1162	1233	1179	960.5	1225
60	1183	1052	764.1	969.1	1087	977.6	756.6	1025
70	829.5	785.9	526.3	724.8	776.3	729.8	515.9	753.6
80	233.4	277.8	238.8	270.1	223.4	252.2	228.0	265.5
90	1.578	2.350	14.28	2.462	1.629	3.432	8.770	1.798

DEG LUMINOUS INTENSITY:cd

### Zonal Lumen Summary

T	φ zone	φ total	lum,lamp
0-10	137.5	137.5	2.52,3
10-20	409.0	546.5	10,11.9
20-30	650.3	1197	21.9,26.1
30-40	834.8	2032	37.2,44.3
40-50	955.1	2987	54.7,65.2
50-60	965.2	3952	72.4,86.3
60-70	854.8	4807	88,105
70-80	518.8	5325	97.5,116
80-90	123.0	5448	99.8,119

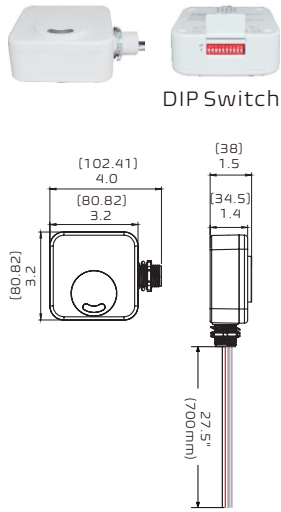
UNIT: lm

### Coefficients Of Utilization

ppc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
pw																
pfc																
RCR	RCR:Room Cavity Ratio (CU)															
0.0	142	142	142	138	138	138	132	132	132	127	127	127	121	121	121	119
1.0	122	116	111	119	114	109	114	110	106	109	106	103	105	102	99	97
2.0	105	96	88	102	94	87	98	91	85	94	88	83	90	85	81	78
3.0	91	80	72	89	79	71	85	77	70	82	74	68	78	72	67	64
4.0	79	68	60	78	67	59	75	65	58	72	64	57	69	62	56	54
5.0	70	59	50	69	58	50	66	57	49	64	55	49	61	54	48	46
6.0	63	52	43	62	51	43	59	50	43	57	49	42	55	48	42	39
7.0	57	46	38	56	45	38	54	44	37	52	43	37	50	43	37	34
8.0	51	41	33	51	40	33	49	40	33	47	39	33	46	38	33	30
9.0	47	37	30	46	36	30	45	36	29	43	35	29	42	35	29	27
10.0	43	33	27	43	33	27	41	33	27	40	32	26	39	32	26	24

## Microwave Sensor option

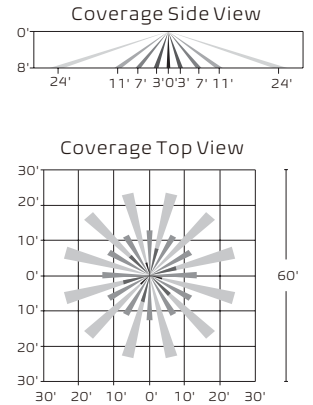
Line Voltage Daylight Harvest / Bi-Level



### Specifications

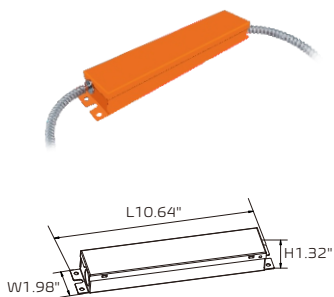
Operating Voltage	120/277VAC, 50Hz/60Hz
Switching Capacity	Resistive/Halogen-800W/1200@120/277V Fluorescent Ballast-660W/1200@120/277V Electronic Ballast(LED/CFL)-5A/5A@120/277V
Stand-by Power	≤0.5W
Detection Area	20%/50%/75%/100%
Hold Time	10s/1min/5min/10min/15min/20min/ 30min/60min
Daylight Threshold	10Lux/30Lux/50Lux
Stand-by Period	1min/30min/60min/+∞
Stand-by Dimming Level	0%/10%/30%/50%
Microwave Frequency	5.8GHz±5MHz
Microwave Power	< 0.2mW
Mounting Height	Max.6m
Detection Range	Max.8m
Control Line	VIOLET+,GRAY-,RED L' Out, WHITE N, BLACK L in
Operating Temperature	-40 °C ~+70 °C
IP Rating	IP20
Detection Angle	360°

### Detection Pattern



## Emergency Option

Up to 120 minutes in event of power failure



### Specifications

Output Power	8 Watts
Output Voltage	15-54V DC
Input Current	70 mA (Max)
Input Power	3.2 Watts (Max)
Input Voltage	100-277VAC, 50-60Hz
Emergency Operation	≥90 Minutes
Standby Power	< 0.4W
Operating Temp	0°C to 50°C
Battery	Lithium
Recharge	24 Hrs
Luminaire Load Power	100W (Max)
Dimensions	L10.64"×W1.98"×H1.32"
Certificate	UL , CEC
Output Class	UL LELV (Output protection self-resetting)



### T-Grid Hanger

It is designed to support LED emergency driver on the ceiling. Made of fire-rated galvanized sheet material, it is durable and safe, which won't conduct electricity. It has added stability to have the emergency driver be to quickly mount on the T-grid.

