



LED Panel Lights



Dimmable

Forest Lighting LED Panel Lights utilize edge lighting technology to enable ultra-thin and ultra-light fixtures with uniform lighting effect. They are designed for visual comfort and provide a pleasing environment while qualifying for the highest classification of utility rebates. Clean and elegant architectural lines make them ideally suited for all types of interior space including offices, schools, hospitals, elder care facilities and retail locations. Forest Lighting LED Panel Lights are DLC Premium qualified and are engineered to pair with multi-level lighting controls.

PANEL LIGHT MODELS

MODEL NO.	DESCRIPTION	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
FL-PL22-20W35K-D	2' x 2'	20	3500K	2614
FL-PL22-20W40K-D	2' x 2'	20	4000K	2632
FL-PL22-20W50K-D	2' x 2'	20	5000K	2650
FL-PL22-30W35KP-D	2' x 2'	30	3500K	4051
FL-PL22-30W40KP-D	2' x 2'	30	4000K	4081
FL-PL22-30W50KP-D	2' x 2'	30	5000K	4111
FL-PL24-35W35K-D	2' x 4'	35	3500K	4540
FL-PL24-35W40K-D	2' x 4'	35	4000K	4589
FL-PL24-35W50K-D	2' x 4'	35	5000K	4637
FL-PL24-50W35KP-D	2' x 4'	50	3500K	6133
FL-PL24-50W40KP-D	2' x 4'	50	4000K	6243
FL-PL24-50W50KP-D	2' x 4'	50	5000K	6353

FEATURES & BENEFITS

- Suitable for retrofit and new construction
- Easy and quick to install
- Suitable for standard T-Bar lay-in or suspended mount applications
- System efficacy up to 135lm/W qualifies for highest classification of rebates
- Standard 0-10V dimming
- Rated lifetime of 50,000 hrs
- DLC listed for utility rebates

WARRANTY
5 Year Warrant



LISTINGS AND CERTIFICATIONS








LED Panel Lights

SPECIFICATION INFORMATION

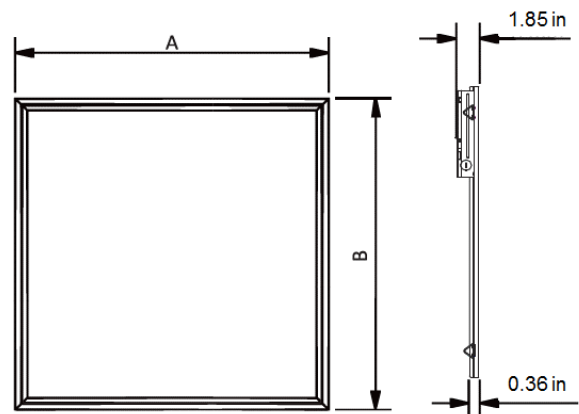
Input Voltage	100-277V , 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%
Correlated Color Temperture (CCT)	3500K, 4000K, 5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +45°C

Wireless Remote Controller Name Model#

	Occupancy Sensor, Wall Mounted	EOSWU-W-EO
	Light Level Sensor, Ceiling Mounted	ELLSU-W-EO
	Relay Zone Controller	LEDRU-W-EO
	Double Rocker Pad	EDRPU-W-EO
	Single Rocker Pad	ESRPU-W-EO

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (A x B)	Weight
FL-PL22	23.7" x 23.7"	7.5 lbs
FL-PL24	23.7" x 47.7"	16.0 lbs



ORDERING INFORMATION

Example: FL-PL22-30W35KP-D

Product	Size	Input Power *	CCT	Product Identifier	Dimming Option
FL-PL	22 2' x 2'	-20 20W	35K 3500K	P 30W and 50W models only	-D 0-10V Dimming
		-30 30W	40K 4000K		
	24 2' x 4'	-35 35W	50K 5000K		
		-50 50W			

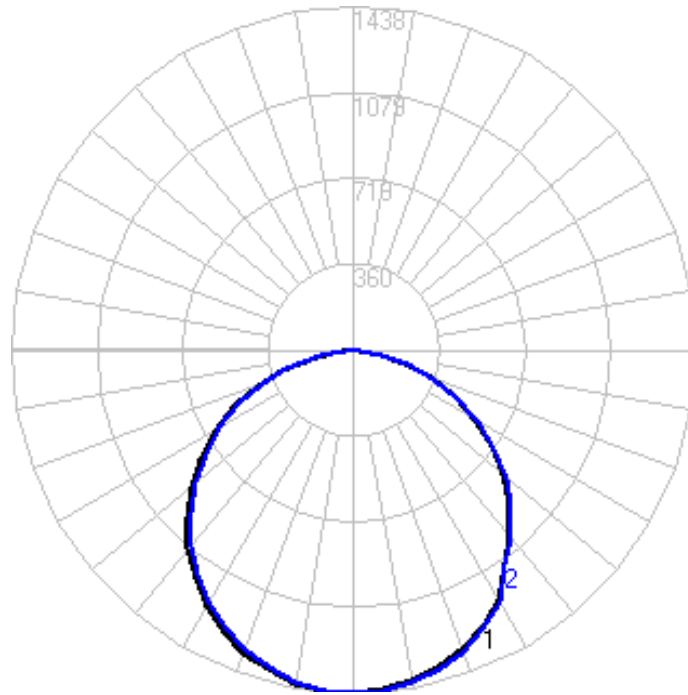
* 2' x 2' panel is available in 20W and 30W,
2' x 4' panel is available in 35W and 50W

Installation Kit

Surface Mount Kit	Dimension A x B x C
SMK-2x2-TF	23.826 x 23.826 x 3.914
SMK-2x4-TF	23.826 x 48.062 x 3.914

LED Panel Lights

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree 2X2 30W 4000K

Performance Data

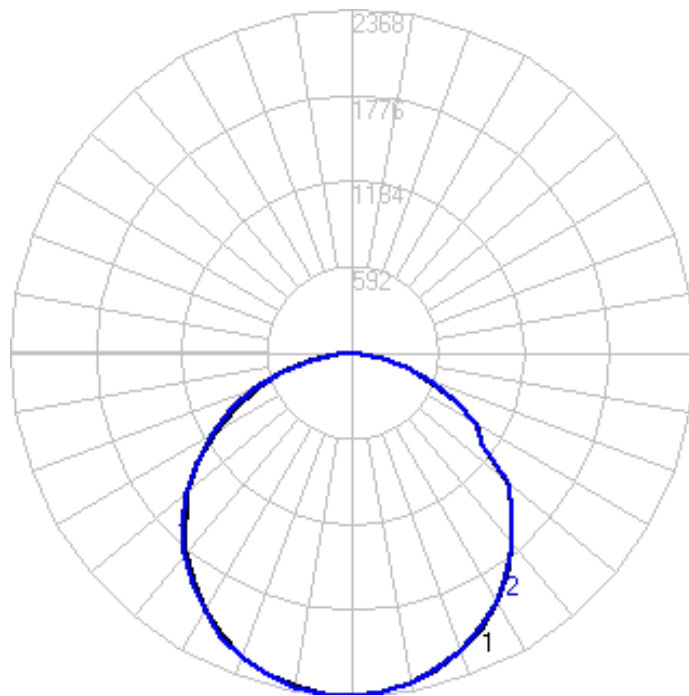
Delivered Lumens (lms)	4062
Input Wattage (W)	30.4
Efficacy (LpW)	133.6
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	1119.59	27.60
0-40	1827.4	45.00
0-60	3225.89	79.40
0-90	4062.44	100.00
40-70	1899.12	46.70
60-80	779.67	19.20
0-180	4062.44	100.00

LED Panel Lights

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

2X4 50W 5000K

Performance Data

Delivered Lumens (lms)	6831.0
Input Wattage (W)	50.8
Efficacy (LpW)	134.5
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	1845.83	27.00
0-40	3032.45	44.40
0-60	5381.19	78.80
0-90	6830.75	100.00
40-70	3194.47	46.80
60-80	1326.47	19.40
0-180	6830.75	100.00



FOREST LIGHTING

Sustainable illumination



LED Troffer 2'x2' and 2'x4'



Dimmable

Forest Lighting LED troffers combine uniform illumination with very high efficacy. Designed for visual comfort in the space below, they provide a pleasing environment while qualifying for the highest classification of utility rebates. The architectural design makes them ideally suited for any type of interior space such as offices, schools, hospitals, elder care facilities and retail locations. Forest Lighting LED troffers can save 30% on electric bills, are DLC Premium qualified, and are engineered to pair with multi-level lighting controls.

FEATURES & BENEFITS

- Suitable for retrofit and new construction
- Easy and quick to install
- Suitable for standard T-Bar lay-in or suspended mount applications
- System efficacy up to 146lm/W qualifies for highest classification of rebates
- Standard 0-10V dimming
- Rated lifetime of 70,000 hrs
- DLC listed for utility rebates

WARRANTY

7 Year Warranty



LISTINGS AND CERTIFICATIONS







TROFFER MODELS

MODEL NO.	DESCRIPTION	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
FL-TF22-20W35K-D	2'x 2'	20	3500K	2728
FL-TF22-20W40K-D	2'x 2'	20	4000K	2786
FL-TF22-20W50K-D	2'x 2'	20	5000K	2844
FL-TF22-32W35KP-D	2'x 2'	32	3500K	3709
FL-TF22-32W40KP-D	2'x 2'	32	4000K	3766
FL-TF22-32W50KP-D	2'x 2'	32	5000K	3822
FL-TF24-35W35K-D	2'x 4'	35	3500K	5065
FL-TF24-35W40K-D	2'x 4'	35	4000K	5127
FL-TF24-35W50K-D	2'x 4'	35	5000K	5189
FL-TF24-50W35KP-D	2'x 4'	50	3500K	6919
FL-TF24-50W40KP-D	2'x 4'	50	4000K	7055
FL-TF24-50W50KP-D	2'x 4'	50	5000K	7192

LED Troffer

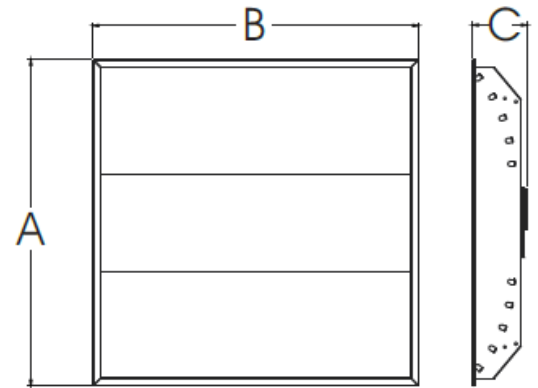
SPECIFICATION INFORMATION

Input Voltage	100-277V , 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%
Correlated Color Temperture (CCT)	3500K, 4000K, 5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +45°C

Wireless Remote	Controller Name	Model#
	Occupancy Sensor, Wall Mounted	EOSWU-W-EO
	Light Level Sensor, Ceiling Mounted	ELLSU-W-EO
	Relay Zone Controller	LEDRU-W-EO
	Double Rocker Pad	EDRPU-W-EO
	Single Rocker Pad	ESRPU-W-EO

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (A x B x C)	Weight
FL-TF22	23.7" x 23.7" x 3.9"	7.7 lbs
FL-TF24	23.7" x 48.0" x 3.9"	16.0 lbs



ORDERING INFORMATION

Example: FL-TF22-20W35K-D

Example: FL-TF22-32W40KP-D

Model	Size	Input Power *	CCT	Product Identifier	Dimming Option
FL-TF	22 2' x 2'	-20 20W	35K 3500K	P 32W and 50W models only	-D 0-10V Dimming
		-32 32W	40K 4000K		
	24 2' x 4'	-35 35W	50K 5000K		
		-50 50W			

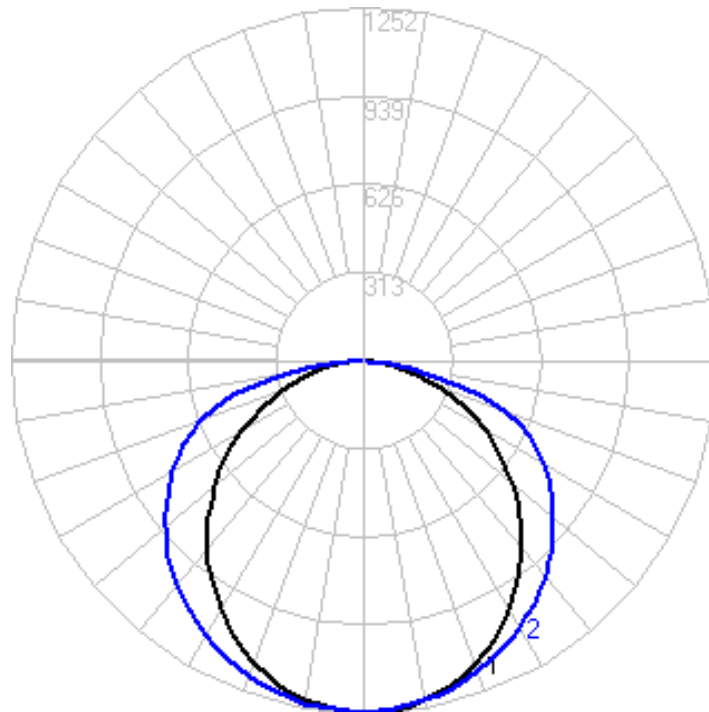
* 2' x 2' troffer is available in 20W and 32W,
2' x 4' troffer is available in 35W and 50W

Installation Kit

Surface Mount Kit	Dimension A x B x C
SMK-2x2-TF	23.826 x 23.826 x 3.914
SMK-2x4-TF	23.826 x 48.062 x 3.914

LED Troffer

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

2X2 32W 4000K

Performance Data

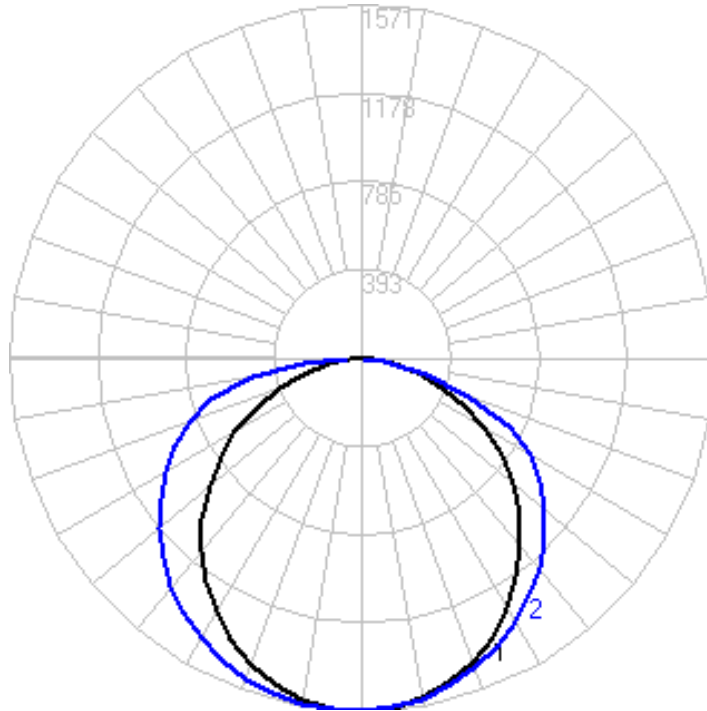
Delivered Lumens (lms)	3880
Input Wattage (W)	31.1
Efficacy (lpW)	124.7
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	973.9	25.10
0-40	1604.09	41.30
0-60	2912.72	75.10
0-90	3879.79	100.00
40-70	1841.37	47.50
60-80	875.76	22.60
0-180	3879.79	100.00

LED Troffer

PHOTOMETRY



Curve 1: 0 degree
 Curve 2: 90 degree

2X4 35W 4000K

Performance Data

Delivered Lumens (lms)	4892.8
Input Wattage (W)	34.5
Efficacy (lpW)	141.8
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	1226.43	25.10
0-40	2020.60	41.30
0-60	3667.48	75.00
0-90	4892.87	100.00
40-70	2314.34	47.30
60-80	1089.93	22.30
0-180	4892.87	100.00



FOREST LIGHTING

Sustainable illumination



LED Troffer Retrofit Kit



Dimmable

The Forest Lighting LED Troffer Retrofit Kit makes conversion to LED lighting easy, quick and cost-effective. Designed for compatibility with all major manufacturers and 90% of the installed fluorescent troffer base, retrofitters simply remove existing tubes and ballast, keeping the wiring and tray in place. The Forest Lighting LED Troffer Retrofit Kit provides uniform illumination with high efficacy, and qualifies for the highest classification of utility rebates. They are ideally suited for interior spaces such as offices, schools, hospitals, elder care facilities and retail locations. Forest Lighting LED Troffer Retrofit Kits can save up to 30% on electric bills, are DLC qualified, and engineered to pair with multi-level lighting controls.

TROFFER RETROFIT KITS MODELS

MODEL NO.	DESCRIPTION	INPUT POWER (W)	DELIVERED LIGHT OUTPUT (LM)
FL-TFRK22-20W	2' x 2' Kit	20	2300
FL-TFRK22-24W	2' x 2' Kit	24	2600
FL-TFRK22-28W	2' x 2' Kit	28	3000
FL-TFRK22-35W	2' x 2' Kit	35	3600
FL-TFRK22-45W	2' x 2' Kit	45	4500
FL-TFRK24-35W	2' x 4' Kit	35	3650
FL-TFRK24-48W	2' x 4' Kit	48	5650
FL-TFRK24-56W	2' x 4' Kit	56	6050

FEATURES & BENEFITS

- Simple retrofit solution for 2' x 2' and 2' x 4' troffers
- Installs without moving the existing fixture housing
- No disruption of ceiling tile or fixture mounting wires
- Ideal for offices, schools, hospitals, elder care facilities and retail locations
- Easy and quick install
- High system efficacy up to 115lm/W qualifies for major rebates
- Standard 0-10V dimming
- Rated lifetime of 50,000 hrs
- DLC listed for utility rebates

WARRANTY

5 Year Warranty







LISTINGS AND CERTIFICATIONS



LED Troffer Retrofit Kit

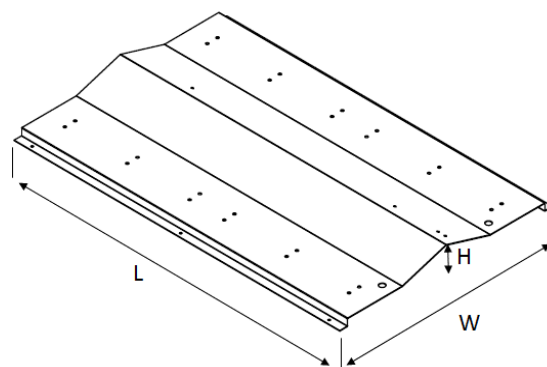
SPECIFICATION INFORMATION

Input Voltage	120-277V , 50/60Hz
Power Factor	> 0.95
Total Harmonic Distortion	<20%
Correlated Color Temperature (CCT)	3000K, 3500K, 4000K, 5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +45°C

Wireless Remote	Controller Name	Model#
	Occupancy Sensor, Wall Mounted	EOSWU-W-EO
	Light Level Sensor, Ceiling Mounted	ELLSU-W-EO
	Relay Zone Controller	LEDRU-W-EO
	Double Rocker Pad	EDRPU-W-EO
	Single Rocker Pad	ESRPU-W-EO

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (L x W x H)	Weight
FL-TFRK22	22.6" x 14.7" x 1.4"	3 lbs
FL-TFRK24	46.0" x 14.6" x 1.6"	6 lbs



ORDERING INFORMATION

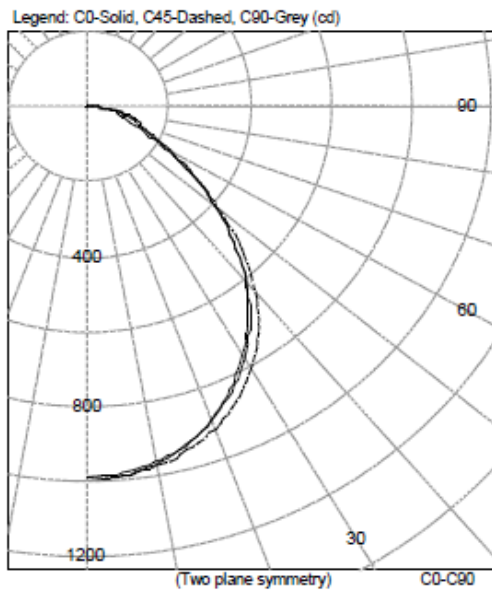
Example: FL-TFRK22-20W30K-DMVFID-TF

Product	Size	Input Power*	CCT	Dimming Option	-TF
FL-TFRK	22 2' x 2' Kit	20W 20W	30K 3000K	DMVFID 0-10V Dimming	
		24W 24W	35K 3500K		
		28W 28W	40K 4000K		
		35W 35W	50K 5000K		
		45W 45W			
24 2' x 4' Kit	35W 35W				
	48W 48W				
	56W 56W				

* 2' x 2' troffer kit is available in 20W, 24W, 28W, 35W, 45W,
2' x 4' troffer kit is available in 35W, 48W and 56W

LED Troffer Retrofit Kit

PHOTOMETRY



Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	746.00	34.40
0-40	1185.00	54.60
0-60	1863.00	85.80
0-90	2170.00	100.00
40-90	985.00	45.40
60-90	307.00	14.10
0-180	2170.00	100.00

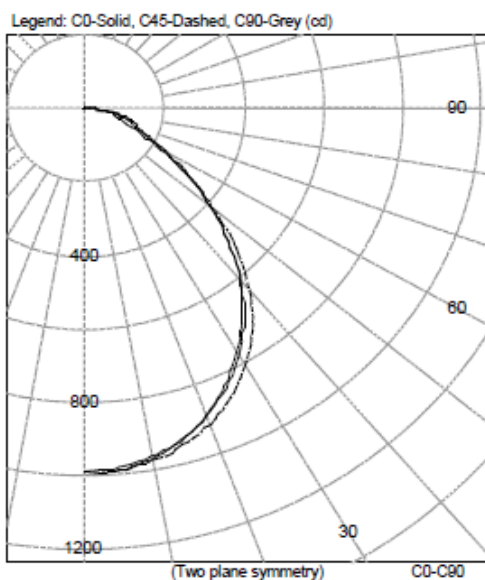
2X2 20W 5000K

Performance Data

Delivered Lumens (lms)	2170.0
Input Wattage (W)	20.6
Efficacy (LpW)	105.3
Voltage (V)	120

LED Troffer Retrofit Kit

PHOTOMETRY



Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	2043.00	33.80
0-40	3276.00	54.20
0-60	5186.00	85.80
0-90	6046.00	100.00
40-90	2770.00	45.80
60-90	859.00	14.20
0-180	6046.00	100.00

2X4 56W 5000K

Performance Data

Delivered Lumens (lms)	6046.0
Input Wattage (W)	56.1
Efficacy (LpW)	107.8
Voltage (V)	120



FOREST LIGHTING

Sustainable illumination



4" LED Downlights



Dimmable

Forest lighting 4 inch downlight installs in standard downlight housings and is perfect for indoor general lighting in residential, office and hospitality applications. Its Color Rendering Index of 90 makes colors more vibrant and richer in the environment it illuminates. By providing over 700lm while consuming only 10W, it replaces 65W incandescent lamps and saves tremendous amount of energy.



DOWNLIGHT MODELS

MODEL NO.	RECESSED HOUSING SIZE	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
DL-4-10W30KDH-L8-LS	4 in	10	3000K	700
DL-4-10W40KDH-L8-LS	4 in	10	4000K	700
DL-4-10W50KDH-L8-LS	4 in	10	5000K	700

FEATURES & BENEFITS

- Installs in standard downlight housings
- Easy and quick to install
- Rated lifetime of 35,000 Hrs
- Energy Star listed for rebates



WARRANTY



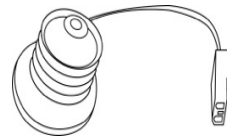
LISTINGS AND CERTIFICATIONS



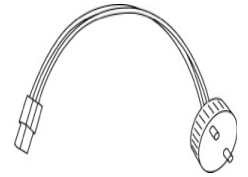
LED Downlights

SPECIFICATION INFORMATION

Input Power	10W
Input Voltage	120V / 60Hz
Base Type	E26
Correlated Color Temperature (CCT)	3000K, 4000K, 5000K
Color Rendering Index	>90
Luminous Flux	700 lm
Efficacy	70lm/W
Beam Angle	120°



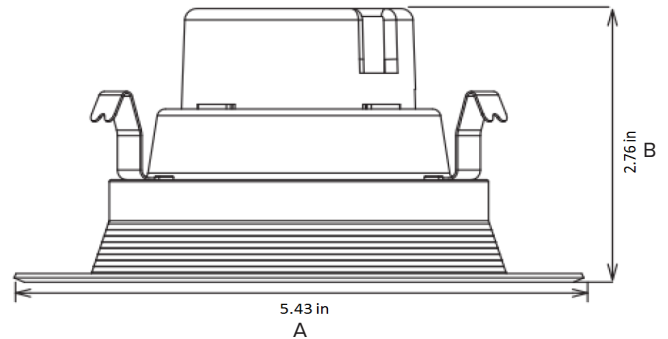
E26 Connector CN-E26
Included



GU24 Connector CN-GU24
Optional

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (A x B)	Weight
DL-4	5.43" x 2.76"	.59 lbs



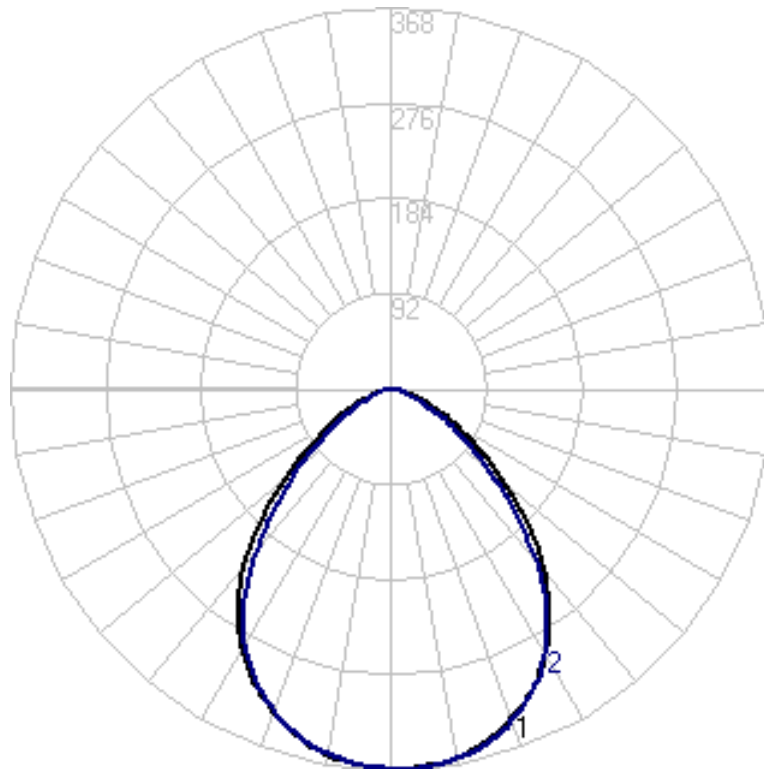
ORDERING INFORMATION

Example: DL-4-10W30KDH-L8-LS

Model	Size	Input Power	CCT	DH-L8-LS
DL	4 4"	10W 10W	30K 3000K	
			40K 4000K	
			50K 5000K	

LED Downlights

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

Performance Data

Delivered Lumens (lms)	730
Input Wattage (W)	9.36
Efficacy (LpW)	78.0
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	279.09	38.30
0-40	440.86	60.40
0-60	663.54	90.90
0-90	728.99	99.90
40-70	267.57	36.70
60-80	62.11	8.50
0-180	729.60	100.00



FOREST LIGHTING

Sustainable illumination



5" / 6" LED Downlights



Dimmable

Forest lighting 6 inch downlight installs in standard downlight housings and is perfect for indoor general lighting in residential, office and hospitality applications. Its Color Rendering Index of 90 makes colors more vibrant and richer in the environment it illuminates. By providing over 1050lm while consuming only 15W, it replaces 90W incandescent lamps and saves tremendous amount of energy.

FEATURES & BENEFITS

- Installs in standard down light housings
- Easy and quick to install
- Rated lifetime of 35,000 Hrs
- Energy Star listed for rebates



DOWNLIGHT MODELS

MODEL NO.	RECESSED HOUSING SIZE	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
DL-6-15W30KDH-L8-LS	5" / 6"	15	3000K	1050
DL-6-15W40KDH-L8-LS	5" / 6"	15	4000K	1050
DL-6-15W50KDH-L8-LS	5" / 6"	15	5000K	1050

WARRANTY
5 Year Warranty



LISTINGS AND CERTIFICATIONS



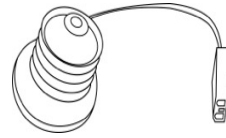
LED Downlights

SPECIFICATION INFORMATION

Input Power	15W
Input Voltage	120V / 60Hz
Base Type	E26
Correlated Color Temperature (CCT)	3000K, 4000K, 5000K
Color Rendering Index	>90
Luminous Flux	1050 lm
Efficacy	70lm/W
Beam Angle	120°

MECHANICAL SPECIFICATIONS

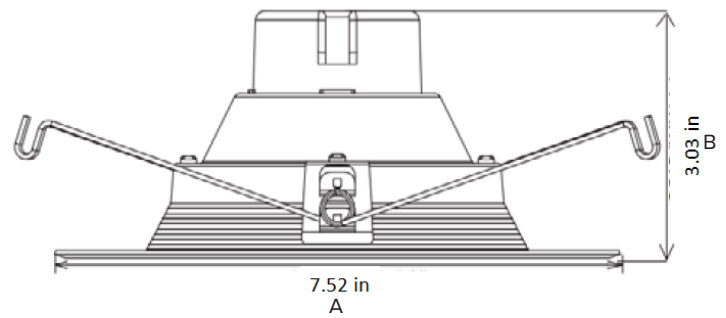
Model Series	Dimensions (A x B)	Weight
DL-6	7.52" x 3.03"	.80 lbs



E26 Connector CN-E26
Included



GU24 Connector CN-GU24
Optional



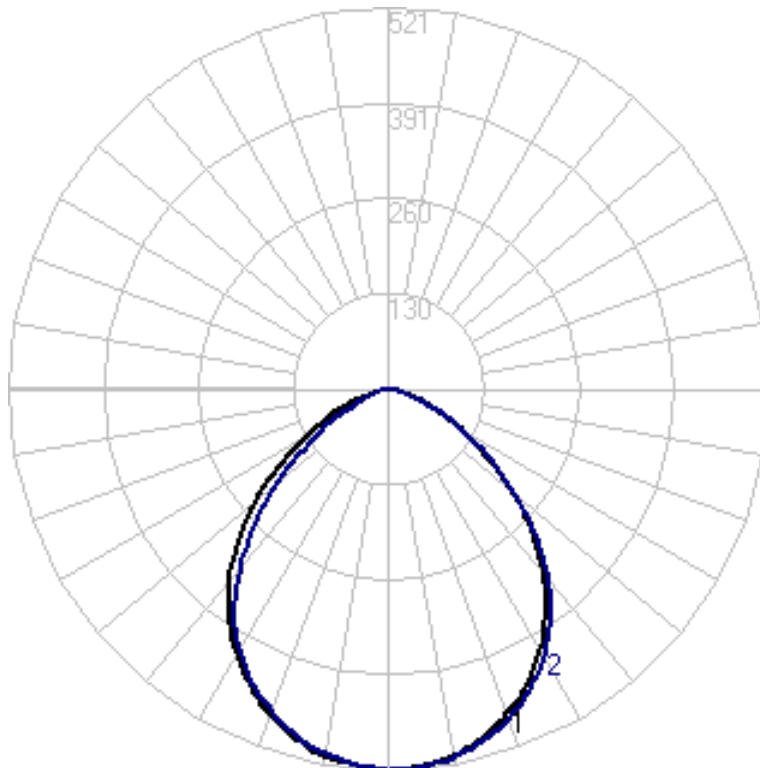
ORDERING INFORMATION

Example: DL-6-15W30KDH-L8-LS

Model	Size	Input Power	CCT	DH-L8-LS
DL	6 5" / 6"	15W 15W	30K 3000K	
			40K 4000K	
			50K 5000K	

LED Downlights

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

Performance Data

Delivered Lumens (lms)	1112
Input Wattage (W)	14.76
Efficacy (LpW)	75.0
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	394.28	35.40
0-40	629.91	56.60
0-60	996.76	89.60
0-90	1111.22	99.90
40-70	447.76	40.30
60-80	109.25	9.80
0-180	1112.28	100.00



FOREST LIGHTING

Sustainable illumination



High Bay LED Fixtures



Dimmable

Forest Lighting LED High Bay LED Fixtures are affordable replacements for HID systems for customers seeking to save on maintenance and lower electric bills. They deliver ideal light and coverage for manufacturing, warehouse, storage, retail, grocery, gyms, atriums, and other high ceiling applications. Forest Lighting LED High Bays are dimmable, and easy to install.

FEATURES & BENEFITS

- Uses 50% less energy than metal halide lamps
- Three different beam angles (60°, 90°, 120°)
- 0-10V Dimming
- DLC listed for utility rebates

HIGH BAY MODELS

MODEL NO.	INPUT POWER (W)	BEAM ANGLE (DEGREES)	DELIVERED LIGHT OUTPUT (LM)
FL-HB150W-60-50K-1DR-DIMM	164	60	16,800
FL-HB150W-90-50K-1DR-DIMM	164	90	16,800
FL-HB150W-120-50K-1DR-DIMM	164	120	16,800
FL-HB200W-60-50K-1DR-DIMM	217	60	21,300
FL-HB200W-90-50K-1DR-DIMM	217	90	21,300
FL-HB200W-120-50K-1DR-DIMM	217	120	21,300

WARRANTY
5 Year Warranty



LISTINGS AND CERTIFICATIONS



High Bay LED Fixtures

SPECIFICATION INFORMATION

Input Voltage	100-277V , 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%
Correlated Color Temperture (CCT)	5000K
Color Rendering Index	>75
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (Diameter x Height)	Weight (lbs)
FL-HB150W	19.0" x 20.0"	17
FL-HB200W	19.0" x 20.0"	20

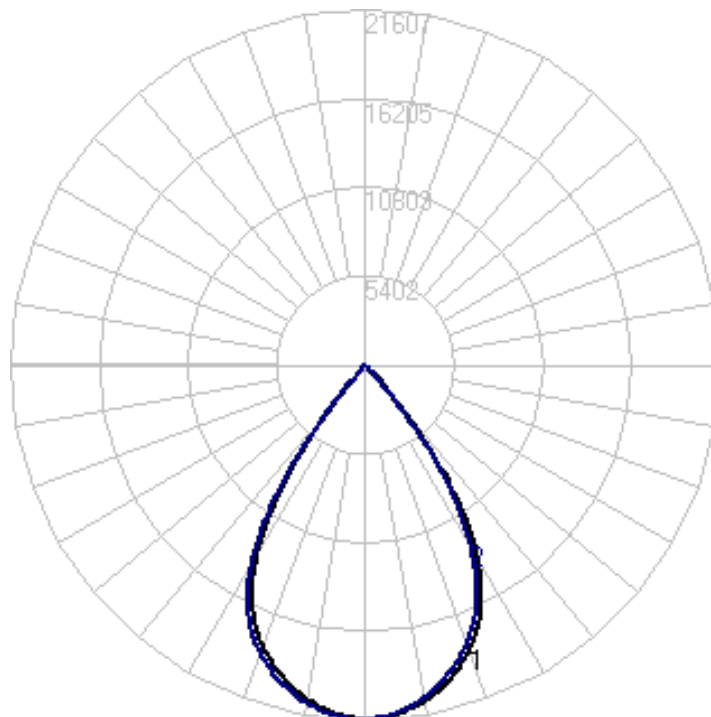
ORDERING INFORMATION

Example: FL-HB150W-60-50K-1DR-DIMM

Product	Nominal Input Power	Beam Aggle	CCT	Number of Driver	Dimming Option
FL-HP	150W 150W	-60 60 degree	50K 5000K	-1DR 1 Driver	-DIMM 0-10V Dimming
	200W 200W	-90 90 degree			
		-120 120 degree			

High Bay LED Fixtures

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

FL-HB200W-60-50K-4DR-DIMM

Performance Data

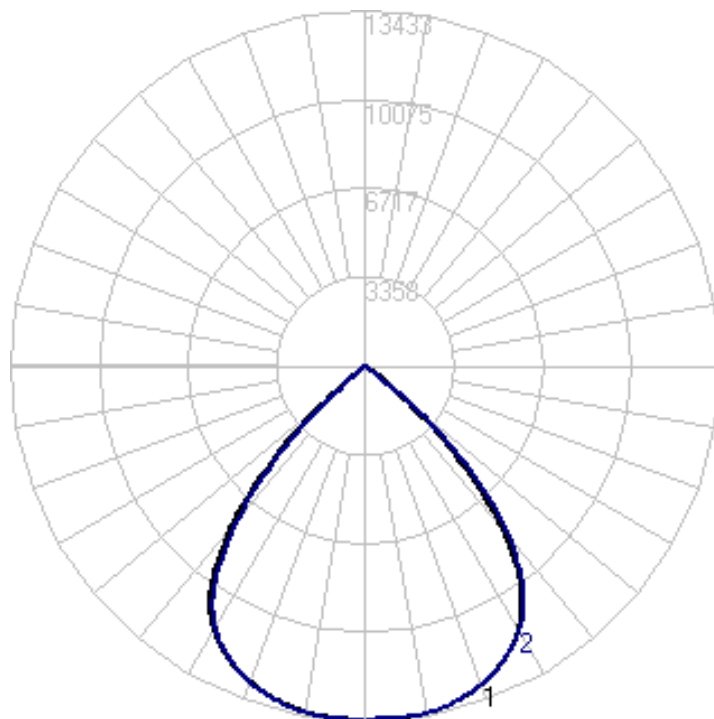
Delivered Lumens (lms)	20922
Input Wattage (W)	217.8
Efficacy (LpW)	96.1
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	14998.9	71.70
0-40	20228.4	96.70
0-60	20729.9	99.10
0-90	20908.7	99.90
40-70	601.8	2.90
60-80	163.5	0.80
0-180	20922.5	100.00

High Bay LED Fixtures

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

FL-HB200W-90-50K-4DR-DIMM

Performance Data

Delivered Lumens (lms)	21124
Input Wattage (W)	217.6
Efficacy (LpW)	97.1
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	10618.9	50.30
0-40	16880.6	79.90
0-60	20946.4	99.20
0-90	21111.0	99.90
40-70	4175.2	19.80
60-80	160.4	0.80
0-180	21124.1	100.00



FOREST LIGHTING

Sustainable illumination



High Bay Linear with Motion Sensor

Forest Lighting High Bay Linear Series are ideal for warehouse, factory, retail, restaurant and commercial applications. An upgrade to Forest Lighting LED High Bays can result in energy savings of 75%, especially with standard lighting control systems. The bright white 5000K fixtures will last for 50,000 hours, and are available in 100W, 150W, and 200W models. Lumen output ranges from 13,000 to 26,000. The warranty is 5 years.

FEATURES & BENEFITS

- Saves 50-70% energy compared to HID lamps
- Integrated motion (PIR) sensor
- Suitable for damp locations
- Rated lifetime of 50,000 hrs
- DLC listed for utility rebates

WARRANTY

5 Year Warranty



HIGH BAY LINEAR MODELS

MODEL NO.	INPUT POWER (W)	DELIVERED LIGHT OUTPUT (LM)
HBL-100W50K-PIR-HL	100	13,000
HBL-150W50K-PIR-HL	150	19,500
HBL-200W50K-PIR-HL	200	26,000

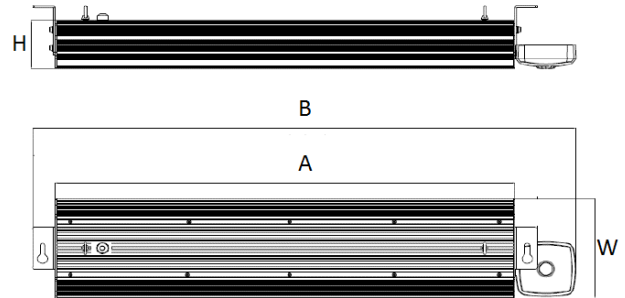
LISTINGS AND CERTIFICATIONS



High Bay Linear

SPECIFICATION INFORMATION

Input Voltage	100-277V , 50/60Hz
Power Factor	> 0.95
Total Harmonic Distortion	<15%
Correlated Color Temperture (CCT)	5000K
Color Rendering Index	>70
Beam Angle	40° x 80°
Operating Temperature	-25° ~ +50°C



MECHANICAL SPECIFICATIONS

Model Series	Dimensions Length (A)	Dimensions Length with Sensor (B)	Dimensions Width (W)	Dimensions Height (H)
HBL-100W50K-PIR-HL	16.0 in	21.9 in	7.5 in	3.5 in
HBL-150W50K-PIR-HL	31.7 in	37.6 in	7.5 in	3.5 in
HBL-200W50K-PIR-HL	39.6 in	45.5 in	7.5 in	3.5 in

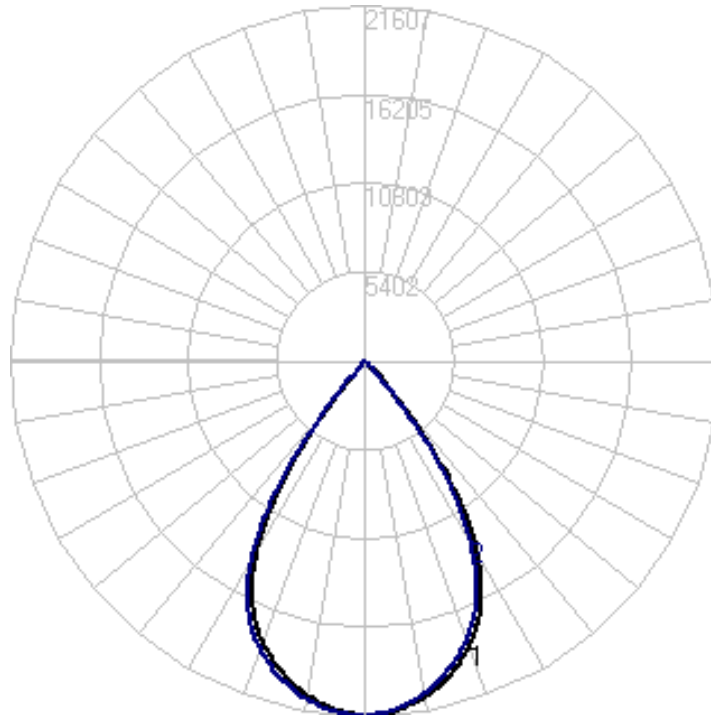
ORDERING INFORMATION

Example: HBL-100W50K-PIR-HL

Product	Nominal Input Power	CCT	Sensor Option	-HL
HBL	100W 100W	50K 5000K	-PIR	
	150W 150W			
	200W 200W			

High Bay Linear

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

FL-HB200W-60-50K-4DR-DIMM

Performance Data

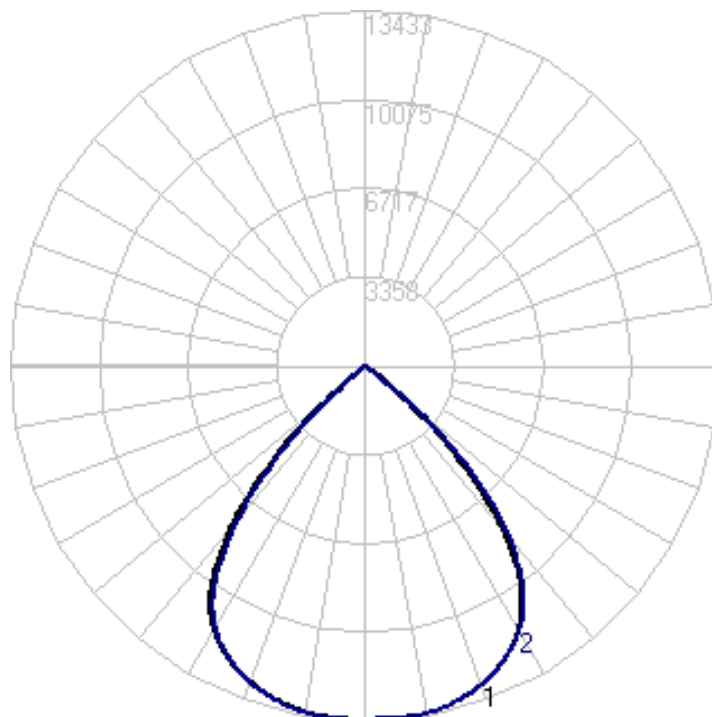
Delivered Lumens (lms)	20922
Input Wattage (W)	217.8
Efficacy (LpW)	96.1
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	14998.9	71.70
0-40	20228.4	96.70
0-60	20729.9	99.10
0-90	20908.7	99.90
40-70	601.8	2.90
60-80	163.5	0.80
0-180	20922.5	100.00

High Bay LED Fixtures

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

FL-HB200W-90-50K-4DR-DIMM

Performance Data

Delivered Lumens (lms)	21124
Input Wattage (W)	217.6
Efficacy (LpW)	97.1
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	10618.9	50.30
0-40	16880.6	79.90
0-60	20946.4	99.20
0-90	21111.0	99.90
40-70	4175.2	19.80
60-80	160.4	0.80
0-180	21124.1	100.00



FOREST LIGHTING

Sustainable illumination



LED Wall Pack

The affordable Forest Lighting Series WPC Wall Pack features a slim design without sacrificing light coverage. Both the 20W and 30W models feature a rugged aluminum body with weather resistant powder coating not only makes it suitable for use in wet locations, but also provides superior thermal management which extends the life of the luminaire. The Forest Lighting Series WPC Wall Pack is ideal for general area and security lighting applications, such as warehouses, loading areas, driveways and general perimeter lighting.

FEATURES & BENEFITS

- Designed for outdoor wall mounted applications
- DLC listed for utility rebates
- Rugged aluminum body with weather resistant powder coating
- High transmittance UV resistant and fire resistant polycarbonate optical lens
- Rated lifetime of 50,000 hrs
- IP65, suitable for wet locations
- Photocell included

WARRANTY
5 Year Warranty



LISTINGS AND CERTIFICATIONS



WALL PACK FIXTURE MODELS

MODEL NO.	INPUT POWER (W)	DELIVERED LIGHT OUTPUT (LM)
FL-WPC-20W50K-WMBR-S	20	2000
FL-WPC-30W50K-WMBR-S	30	3000

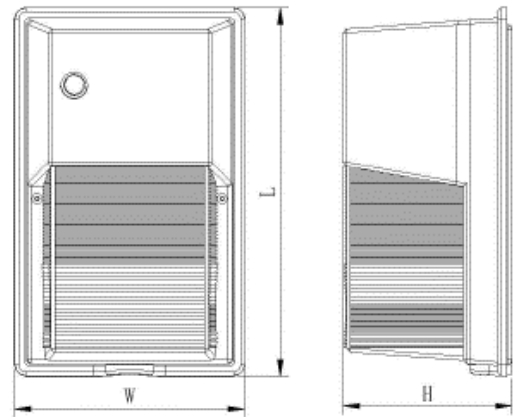
LED Wall Pack

SPECIFICATION INFORMATION

Input Voltage	120-277V , 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%
Correlated Color Temperature (CCT)	5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (L x W x H)
FL-WPC-20W50K-WMBR-S	11.0" x 6.8" x 5.1"
FL-WPC-30W50K-WMBR-S	11.0" x 6.8" x 5.1"



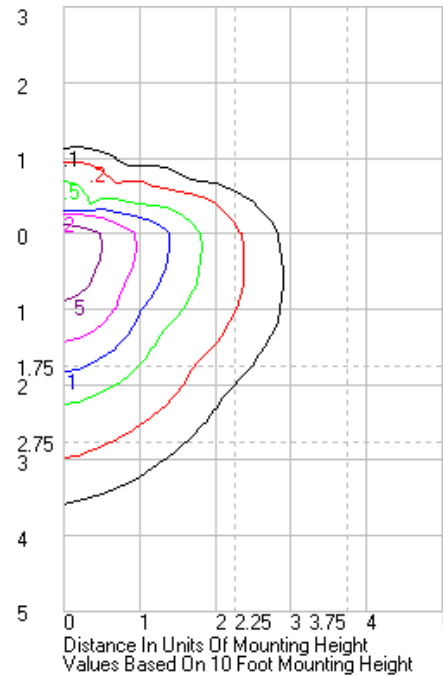
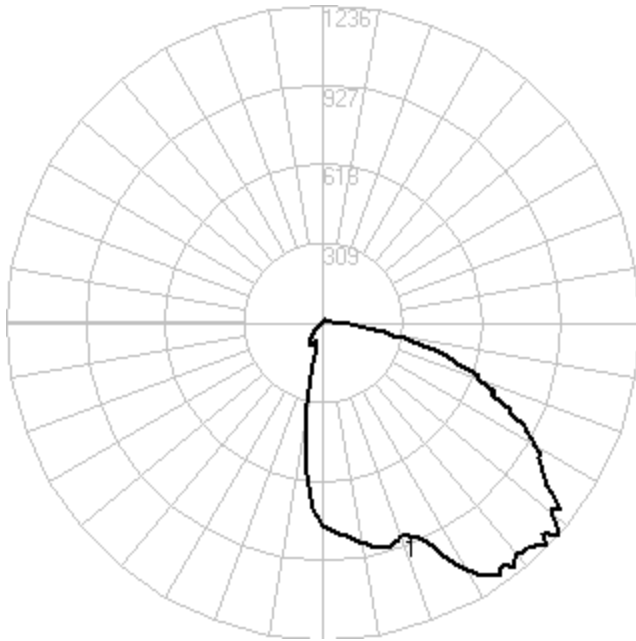
ORDERING INFORMATION

Example: FL-WPC-20W50K-WMBR-S

Product	Input Power	CCT	Mounting Option	Finish	Shape
FL-WPC	20W 20W	50K 5000K	-WM Wall Mount	BR Brown	-S Square
	30W 30W				

LED Wall Pack

PHOTOMETRY



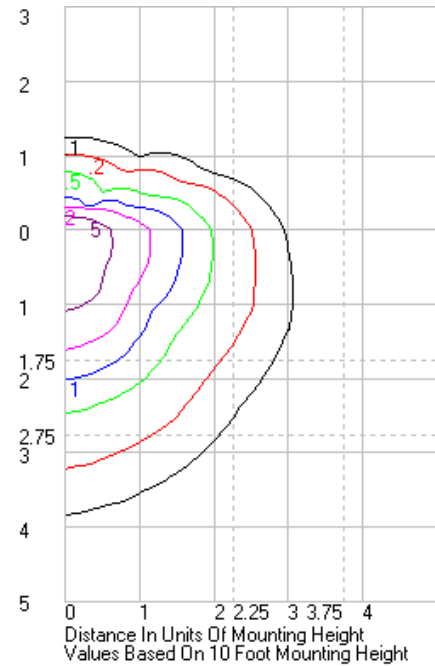
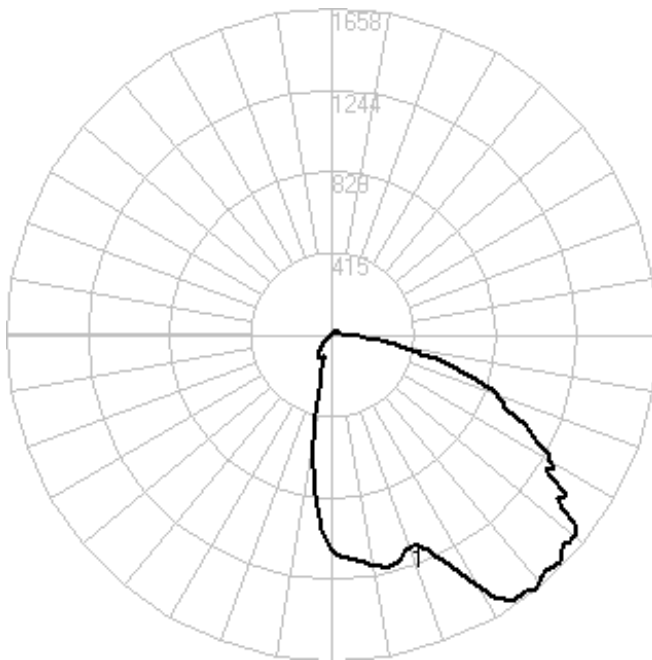
FL-WPC-20W50K-WMBR-S

Performance Data

Delivered Lumens (lms)	2075.5
Input Wattage (W)	20.1
Efficacy (lpW)	103.2
Voltage (V)	120
BUG Rating	B1-U2-G1

LED Wall Pack

PHOTOMETRY



FL-WPC-30W50K-WMBR-S

Performance Data

Delivered Lumens (lms)	2880.6
Input Wattage (W)	27.9
Efficacy (LpW)	103.2
Voltage (V)	120
BUG Rating	B1-U3-G1



FOREST LIGHTING

Sustainable illumination

LED Wall Pack

The affordable Forest Lighting Series WPT Wall Pack offers broad light coverage for maximum safety and security. Both the 50W and 80W models feature a rugged aluminum body with weather resistant powder coating not only makes it suitable for use in wet locations, but also provides superior thermal management which extends the life of the luminaire. The Forest Lighting Series WPT Wall Pack is ideal for lighting applications where maximum distribution is required such as warehouses, loading areas, driveways and general perimeter lighting.



FEATURES & BENEFITS

- Designed for outdoor wall mounted applications
- DLC listed for utility rebates
- Rugged aluminum body with weather resistant powder coating
- High transmittance UV resistant and fire resistant polycarbonate optical lens
- Rated lifetime of 50,000 hrs
- IP65, suitable for wet locations
- Photocell optional

WALL PACK FIXTURE MODELS

MODEL NO.	INPUT POWER (W)	DELIVERED LIGHT OUTPUT (LM)
FL-WPT-50W50K	50	5800
FL-WPT-80W50K	80	9800

WARRANTY
5 Year Warranty



LISTINGS AND CERTIFICATIONS



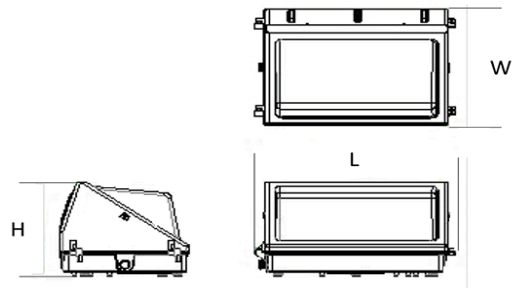
LED Wall Pack

SPECIFICATION INFORMATION

Input Voltage	120-277V , 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%
Correlated Color Temperture (CCT)	5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (L x W x H)
FL-WPT-50W50K	15.0" x 9.3" x 7.5"
FL-WPT-80W50K	15.0" x 9.3" x 7.5"



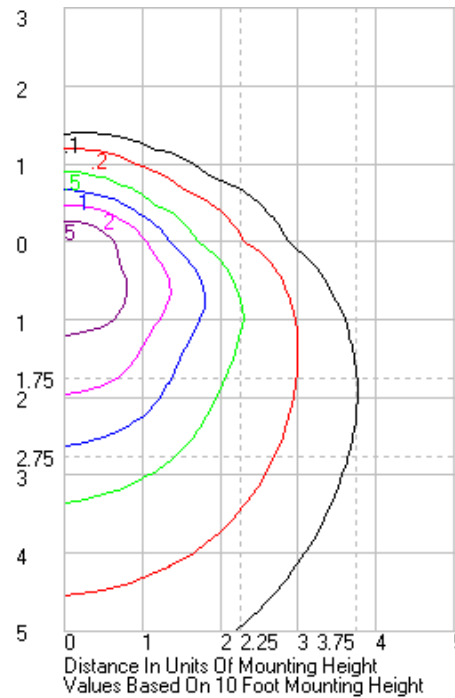
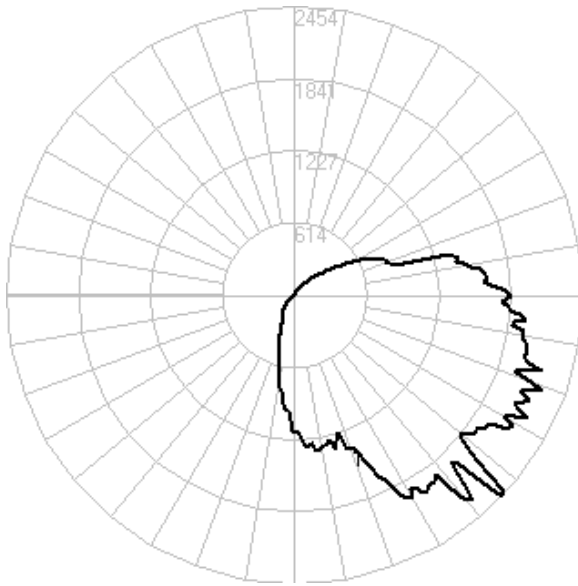
ORDERING INFORMATION

Example: FL-WPT-50W50K

Product	Input Power	CCT
FL-WPT	50W 50W	50K 5000K
	80W 80W	

LED Wall Pack

PHOTOMETRY



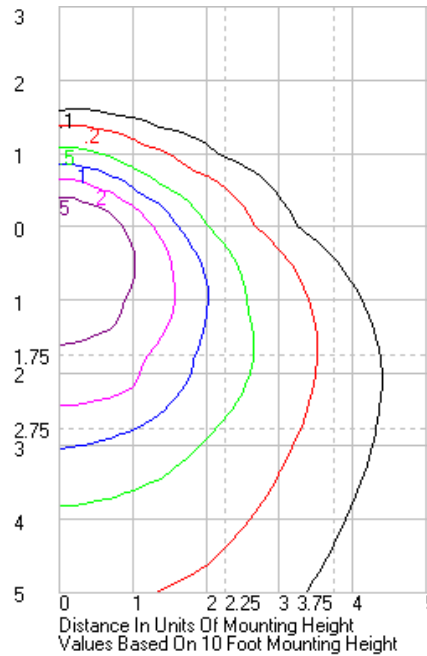
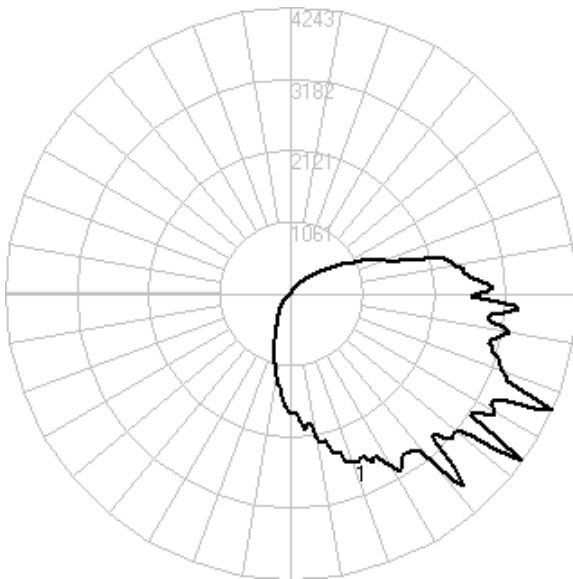
FL-WPT-50W50K

Performance Data

Delivered Lumens (lms)	5848.0
Input Wattage (W)	48
Efficacy (LpW)	121.8
Voltage (V)	120
BUG Rating	B1-U4-G4

LED Wall Pack

PHOTOMETRY



FL-WPT-80W50K

Performance Data

Delivered Lumens (lms)	9802.9
Input Wattage (W)	78.2
Efficacy (LpW)	125.3
Voltage (V)	120
BUG Rating	B1-U4-G5



FOREST LIGHTING

Sustainable illumination



LED Area Light (100V-277V)

The Forest Lighting LED Area Light, which fits most existing poles, is an ideal way to upgrade to LED in roadway, area, park/rec, and similar outdoor lighting applications. The stylish design is protected by the latest powder coating technology for long and maintenance free life. The polycarbonate lens will not yellow, and provides even lighting on the space below. The 90W, 120W, 150W and 220W models last 50,000 hours and carry a 5 year warranty.

LED AREA LIGHT MODELS

MODEL NO.	INPUT POWER (W)	DELIVERED LIGHT OUTPUT (LM)
FL-ALC-90W50K-SFBR	90	10800
FL-ALC-90W50K-WMBR	90	10800
FL-ALC-90W50K-TRBR	90	10800
FL-ALC-90W50K-MABR	90	10800
FL-ALC-120W50K-SFBR	120	14400
FL-ALC-120W50K-WMBR	120	14400
FL-ALC-120W50K-TRBR	120	14400
FL-ALC-120W50K-MABR	120	14400
FL-ALC-150W50K-SFBR	150	18000
FL-ALC-150W50K-WMBR	150	18000
FL-ALC-150W50K-TRBR	150	18000
FL-ALC-150W50K-MABR	150	18000
FL-ALC-220W50K-SFBR	220	26400
FL-ALC-220W50K-WMBR	220	26400
FL-ALC-220W50K-TRBR	220	26400
FL-ALC-220W50K-MABR	220	26400

FEATURES & BENEFITS

- Thin, smart and stylish shape
- Powder coated heatsink with superior cooling design
- High transmittance, anti-UV and flame resistant polycarbonate lens
- IP65, suitable for wet locations
- Photocell Optional
- DLC listed for utility rebates

WARRANTY
5 Year Warranty



LISTINGS AND CERTIFICATIONS



LED Area Light

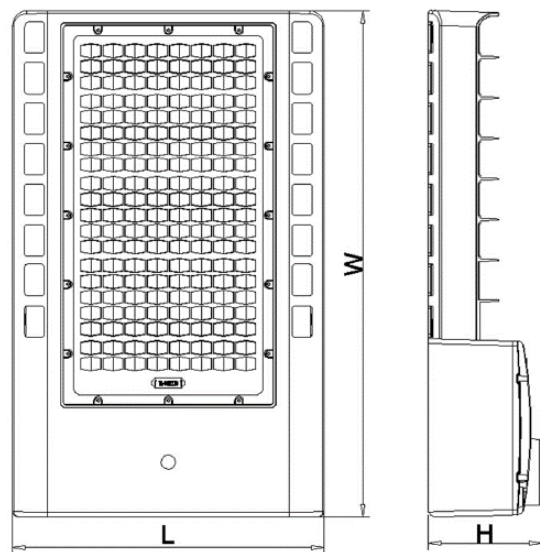
SPECIFICATION INFORMATION

Input Power	100-277V, 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%

Correlated Color Temperature (CCT)	5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (W x L x H)
FL-ALC 90W/120W/150W	15.0" X 10.8" X 4.3"
FL-ALC 220W	20.2" X 13.2" X 4.5"

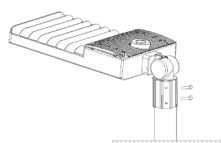


ORDERING INFORMATION

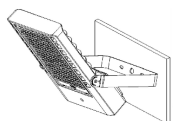
Example: FL-ALC-90W50K-WMBR

Product	Nominal Input Power	CCT	Mounting option	Color
FL-ALC	90W 90W	50K 5000K	SF Slip Fitter	BR Bronze
	120W 120W		*WM Wall Mount	
	150W 150W		*TR Trunnion	
	220W 220W		MA ARM	

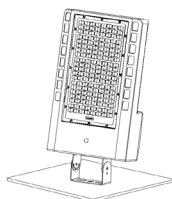
* WM & TR is non stock items



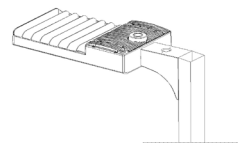
Slip Fitter



Wall Mount



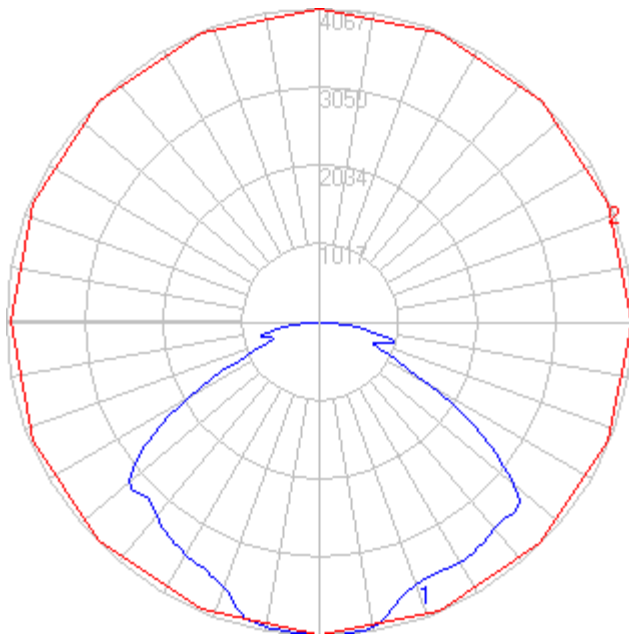
Trunnion



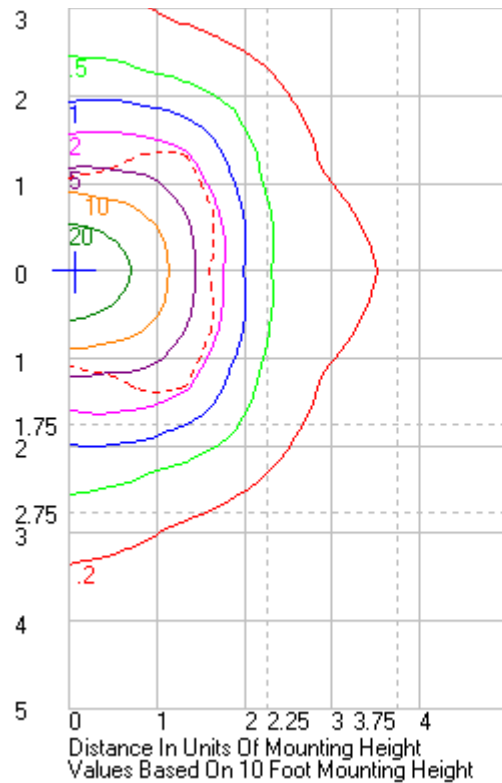
ARM

LED Area Light

PHOTOMETRY



Curve 1: Vertical Plane
Curve 2: Horizontal Cone



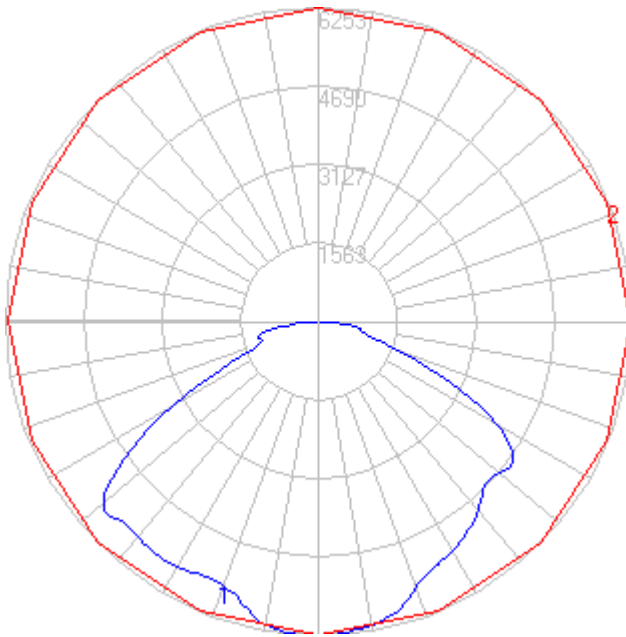
FL-ALC-90W50K-WMBR

Performance Data

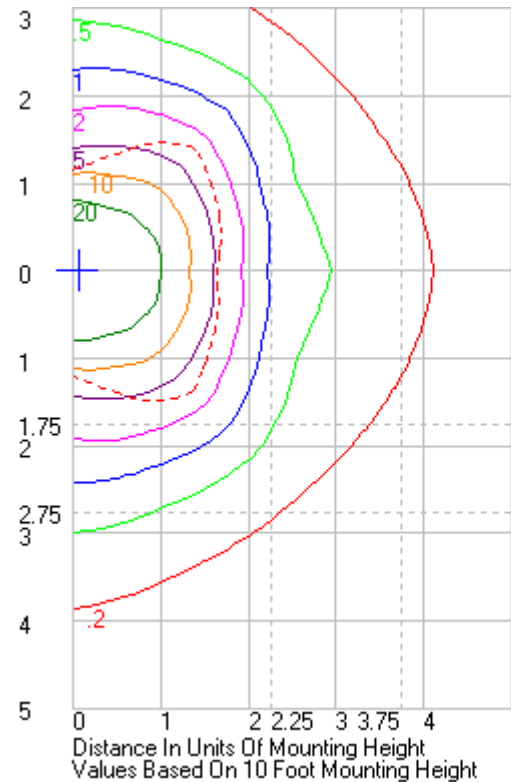
Delivered Lumens (lms)	11322
Input Wattage (W)	92.6
Efficacy (LpW)	122.3
Voltage (V)	120
BUG Rating	B3-U0-G2

LED Area Light

PHOTOMETRY



Curve 1: Vertical Plane
Curve 2: Horizontal Cone



FL-ALC-150W50K-WMBR

Performance Data

Delivered Lumens (lms)	18359
Input Wattage (W)	153.5
Efficacy (LpW)	119.6
Voltage (V)	120
BUG Rating	B3-U0-G2



FOREST LIGHTING

Sustainable illumination



LED Area Light (277V-480V)

The Forest Lighting LED Area Light, which fits most existing poles, is an ideal way to upgrade to LED in roadway, area, park/rec, and similar outdoor lighting applications. The stylish design is protected by the latest powder coating technology for long and maintenance free life. The polycarbonate lens will not yellow, and provides even lighting on the space below. The 100W, 150W, 220W, 300W and 380W models last 50,000 hours and carry a 5 year warranty.

LED AREA LIGHT MODELS

MODEL NO.	INPUT POWER (W)	DELIVERED LIGHT OUTPUT
FL-ALC-100W50K-H-SFBR	100	12000
FL-ALC-100W50K-H-WMBR	100	12000
FL-ALC-100W50K-H-TRBR	100	12000
FL-ALC-100W50K-H-MABR	100	12000
FL-ALC-150W50K-H-SFBR	150	18000
FL-ALC-150W50K-H-WMBR	150	18000
FL-ALC-150W50K-H-TRBR	150	18000
FL-ALC-150W50K-H-MABR	150	18000
FL-ALC-220W50K-H-SFBR	220	26400
FL-ALC-220W50K-H-WMBR	220	26400
FL-ALC-220W50K-H-TRBR	220	26400
FL-ALC-220W50K-H-MABR	220	26400
FL-ALC-300W50K-H-SFBR	300	36000
FL-ALC-300W50K-H-WMBR	300	36000
FL-ALC-300W50K-H-TRBR	300	36000
FL-ALC-300W50K-H-MABR	300	36000
FL-ALC-380W50K-H-SFBR	380	46000
FL-ALC-380W50K-H-WMBR	380	46000
FL-ALC-380W50K-H-TRBR	380	46000
FL-ALC-380W50K-H-MABR	380	46000

FEATURES & BENEFITS

- Thin, smart and stylish shape
- Powder coated heatsink with superior cooling design
- High transmittance, anti-UV and flame resistant polycarbonate lens
- IP65, suitable for wet locations
- Photocell Optional
- DLC listed for utility rebates

WARRANTY
5 Year Warranty



LISTINGS AND CERTIFICATIONS



LED Area Light

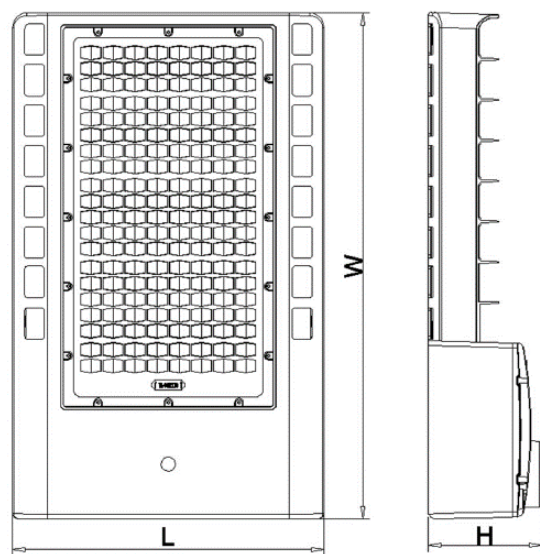
SPECIFICATION INFORMATION

Input Power	277V-480V, 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%

Correlated Color Temperature (CCT)	5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (W x L x H)
FL-ALC 100W/150W	15.0" X 10.8" X 4.3"
FL-ALC 220W/300W	20.2" X 13.2" X 4.5"
FL-ALC 380W	21.7" X 14.2" X 4.7"

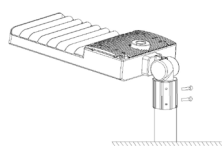


ORDERING INFORMATION

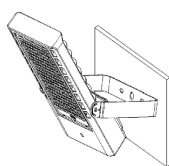
Example: FL-ALC-100W50K-H-WMBR

Product	Nominal Input Power	CCT	H	Mounting option	Color
FL-ALC	100W 100W	50K 5000K	H 277V-480V	SF Slip Fitter	BR Bronze
	150W 150W			*WM Wall Mount	
	220W 220W			*TR Trunnion	
	300W 300W			MA ARM	
	380W 380W				

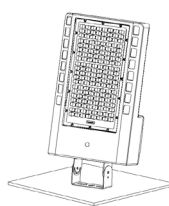
* WM & TR is non stock item.



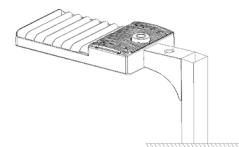
Slip Fitter



Wall Mount



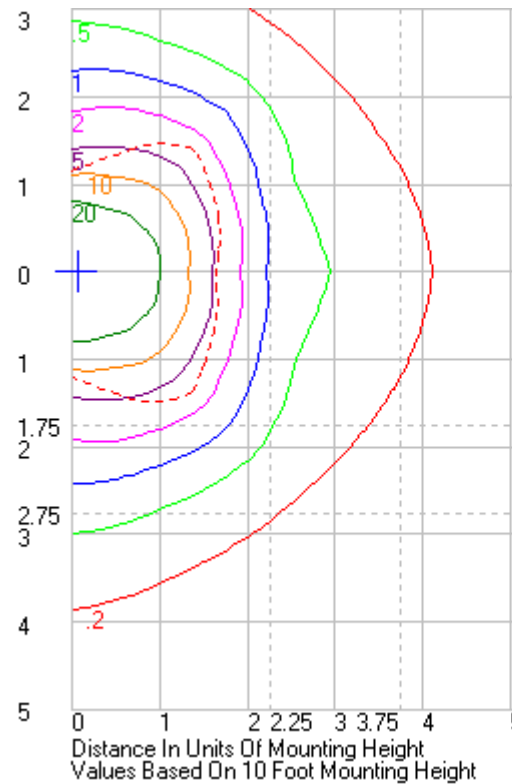
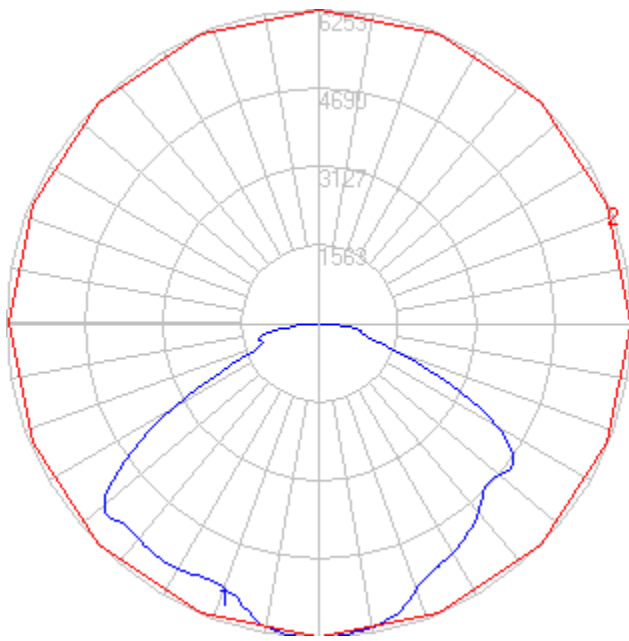
Trunnion



ARM

LED Area Light

PHOTOMETRY



Curve 1: Vertical Plane
Curve 2: Horizontal Cone

FL-ALC-150W50K-H-WMBR

Performance Data

Delivered Lumens (lms)	18359
Input Wattage (W)	153.5
Efficacy (LpW)	119.6
Voltage (V)	120
BUG Rating	B3-U0-G2



LED Canopy Light

The Forest Lighting Canopy Light is an affordable way to upgrade to LED for service stations and similar outdoor applications. The 5000K bright white light increases customers' sense of safety and security, and studies show revenues grow in a well lit environment. Forest Lighting LED Canopy Lights are easy to install and are virtually maintenance free. Energy savings of 70% can be achieved with both 45W and 80W models. The warranty is 5 years.



FEATURES & BENEFITS

- Suitable for wet locations
- DLC listed for utility rebates

WARRANTY
5 Year Warranty



LED CANOPY LIGHT MODELS

MODEL NO.	INPUT POWER (W)	DELIVERED LIGHT OUTPUT (LM)
FL-CLC-45W50K-WMBR	45	4948
FL-CLC-80W50K-WMBR	80	9548

LISTINGS AND CERTIFICATIONS



LED Canopy Light

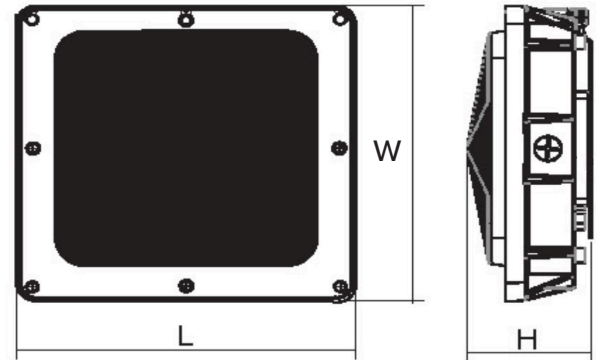
SPECIFICATION INFORMATION

Input Voltage	100-277V, 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%

Correlated Color Temperature (CCT)	5000K
Color Rendering Index	>80
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions (L x W x H)
FL-CLC-45W	10" x 10" x 3 5/8"
FL-CLC-80W	14" x 14" x 4"



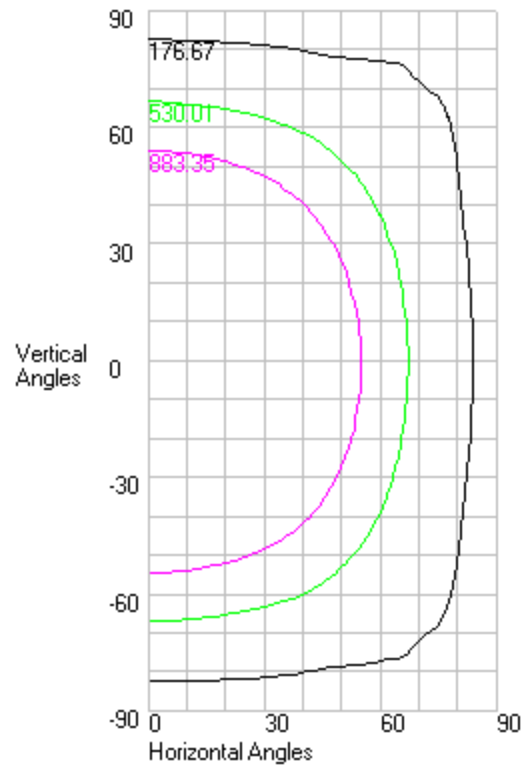
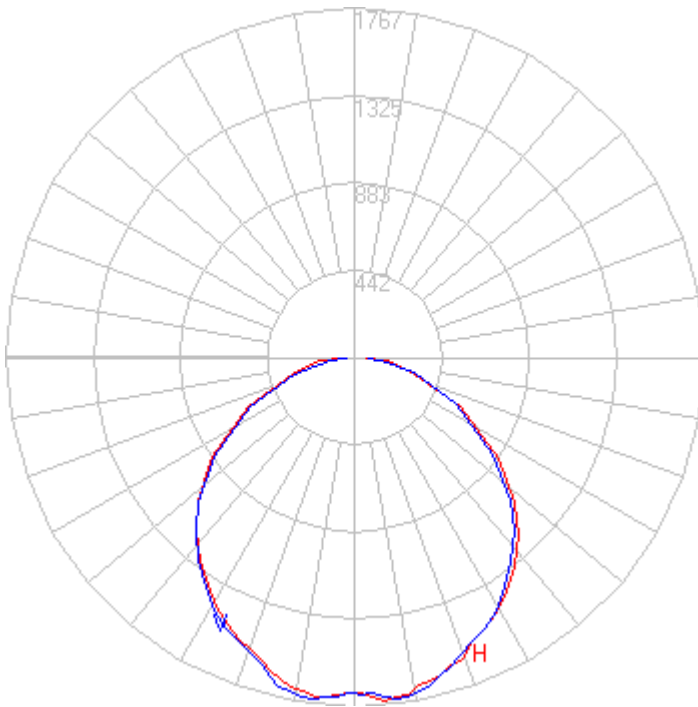
ORDERING INFORMATION

Example: FL-CLC-45W50K-WMBR

Product	Nominal Input Power		CCT		-WMBR
FL-CLC	45W	45W	50K	5000K	
	80W	80W			

LED Canopy Light

PHOTOMETRY



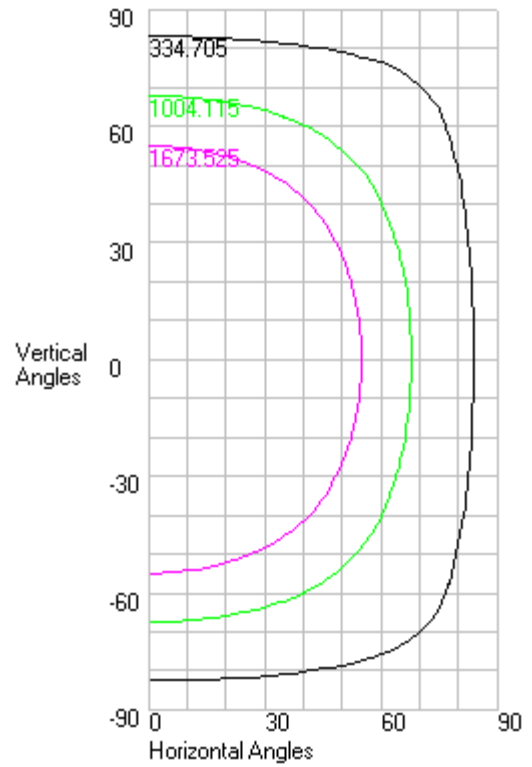
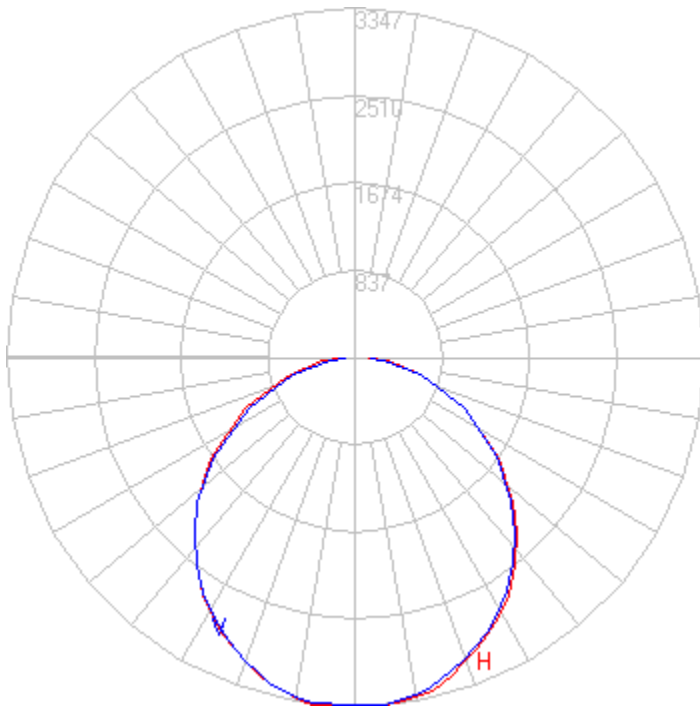
FL-CLC-45W50K-WMBR

Performance Data

Delivered Lumens (lms)	4919
Input Wattage (W)	44.3
Efficacy (LpW)	111.0
Voltage (V)	120

LED Canopy Light

PHOTOMETRY



FL-CLC-80W50K-WMBR

Performance Data

Delivered Lumens (lms)	9500
Input Wattage (W)	79.6
Efficacy (LpW)	119.3
Voltage (V)	120



univ8™ LED T8



UniV8™ LED T8 Tube

UniV8™ is the ultimate T8 retrofit solution. This universal lamp can be installed in fixtures with or without a ballast, making it ideal for retrofit applications where the fluorescent systems are being upgraded to save energy and maintenance costs. Customers can elect to utilize the existing ballast with no rewiring, or install directly without ballast.

FEATURES & BENEFITS

- Direct replacement of fluorescent tubes, no electrical modification to fixture is required
- Compatible with instant start electronic ballasts
- Easy and quick to install
- System efficacy over 130lm/W
- Can operate directly from line voltage
- Made of Polycarbonate and Aluminum
- Rated lifetime of 50,000 hrs
- DLC listed for utility rebates

UNIV8 LED TUBES MODELS

MODEL NO.	NOMINAL LENGTH	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
T8U241-8	2'	8	4100K	1000
FL-T8U435-12W-BN*	4'	12	3500K	1620
FL-T8U441-12W-BN	4'	12	4100K	1620
FL-T8U450-12W-BN	4'	12	5000K	1620
T8U430-15*	4'	15	3000K	2000
T8U435-15*	4'	15	3500K	2000
FL-T8U441-15W-BN	4'	15	4100K	2000
FL-T8U450-15W-BN	4'	15	5000K	2000
T8U460-15*	4'	15	6000K	2000

*nonstocking item

WARRANTY
5 Year Warranty



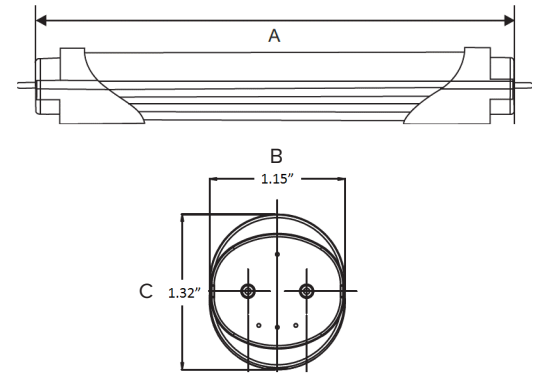
LISTINGS AND CERTIFICATIONS



UniV8 LED T8 Tube

SPECIFICATION INFORMATION

Input Voltage	100-277V, 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<25%
Correlated Color Temperature (CCT)	3000K, 3500K, 4100K, 5000K, 6000K
Color Rendering Index	>80
Beam Angle	120°
Operating Temperature	-20° ~ +45°C
Base	Medium Bi-Pin (G13)



MECHANICAL SPECIFICATIONS

Model Series	Dimensions (A x B x C)
T8U2	23.14" X 1.15" X 1.32"
T8U4	47.17" X 1.15" X 1.32"
FL-T8U4	47.17" X 1.15" X 1.32"

ORDERING INFORMATION

Example: T8U250-8

Product	Size	CCT	Input Power
T8U	2 2'	41 4100K	-8 8W

4 Foot LED Tube Ordering Information- 3000K, 3500K and 6000K Models

Example: T8U460-15

Product	Size	CCT	Input Power
T8U	4 4'	30 3000K	-15W 15W
		35 3500K	
		60 6000K	

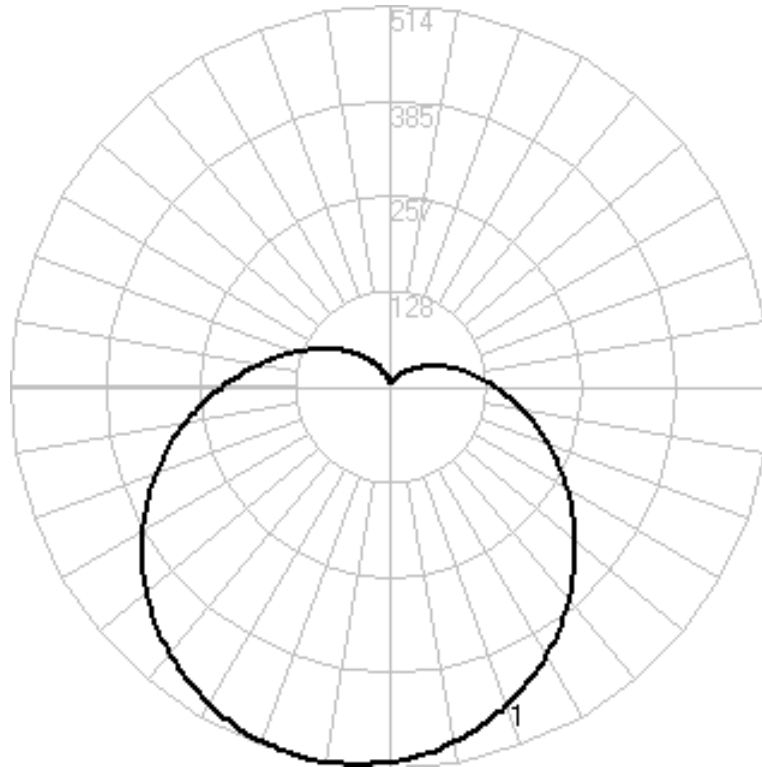
4 Foot LED Tube Ordering Information- 3500K, 4100K and 5000K Models

Example: FL-T8U441-15W-BN

Product	Size	CCT	Input Power	-BN
FL-T8U	4 4'	35 3500K	-12W 12W	
		41 4100K	-15W 15W	
		50 5000K		

UniV8 LED T8 Tube

PHOTOMETRY



Curve 1: 0 degree

FL-T8U450-15W-BN

Performance Data

Delivered Lumens (lms)	2025
Input Wattage (W)	15
Efficacy (LpW)	135.0
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	396.58	19.60
0-40	656.06	32.40
0-60	1205.93	59.60
0-90	1751.52	86.50
40-70	785.79	38.80
60-80	419.06	20.70
0-180	2025.04	100.00



T8 LED Lamp

Forest Lighting T8 LED Lamp is designed to perform efficiently in places where old-fashioned fluorescent lamps had been used. Our T8 LED tubes incorporate integral drivers, so out-moded failure-prone fluorescent ballasts are eliminated. Lighting systems are simplified. Forest Lighting T8 LED Lamps connect directly to line voltage for easy installation and are offered in two lengths, three wattages and many color temperatures.

FEATURES & BENEFITS

- Operates directly from line voltage
- UL Classified in US and Canada
- Compatible with voltages 100-277V
- Rated lifetime of 50,000 hrs
- DLC listed for utility rebates

WARRANTY

5 Year Warranty



T8 LED LAMP MODELS

MODEL NO.	DESCRIPTION	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
T8T230	2'	12	3000K	1200
T8T235	2'	12	3500K	1200
T8T241	2'	12	4100K	1200
T8T250	2'	12	5000K	1200
T8T260	2'	12	6000K	1200
T8T430-15	4'	15	3000K	1900
T8T435-15	4'	15	3500K	1900
T8T441-15	4'	15	4100K	1900
T8T450-15	4'	15	5000K	1900
T8T460-15	4'	15	6000K	1900
T8T430	4'	19	3000K	2000
T8T435	4'	19	3500K	2000

LISTINGS AND CERTIFICATIONS



T8 LED Lamp

SPECIFICATION INFORMATION

Input Voltage	100-277V, 50/60Hz
Power Factor	> 0.9
Total Harmonic Distortion	<20%
Correlated Color Temperature (CCT)	3000K, 3500K, 4100K, 5000K, 6000K
Color Rendering Index	>80
Beam Angle	120°
Operating Temperature	-20° ~ +45°C
Base	Medium Bi-Pin (G13)

MECHANICAL SPECIFICATIONS

Model Series	Dimensions		H x W	Weight
	A	B		
T8T2	23.62"	22.20"	1.18" x 1.02"	7.32 oz
T8T4	47.17"	45.20"	1.18" x 1.02"	12.52 oz



ORDERING INFORMATION

Ordering Information for 2' 12W and 4' 19W Models

Example: T8T230

Product	Size	CCT
T8T	2 2'	30 3000K
	4 4'	35 3500K

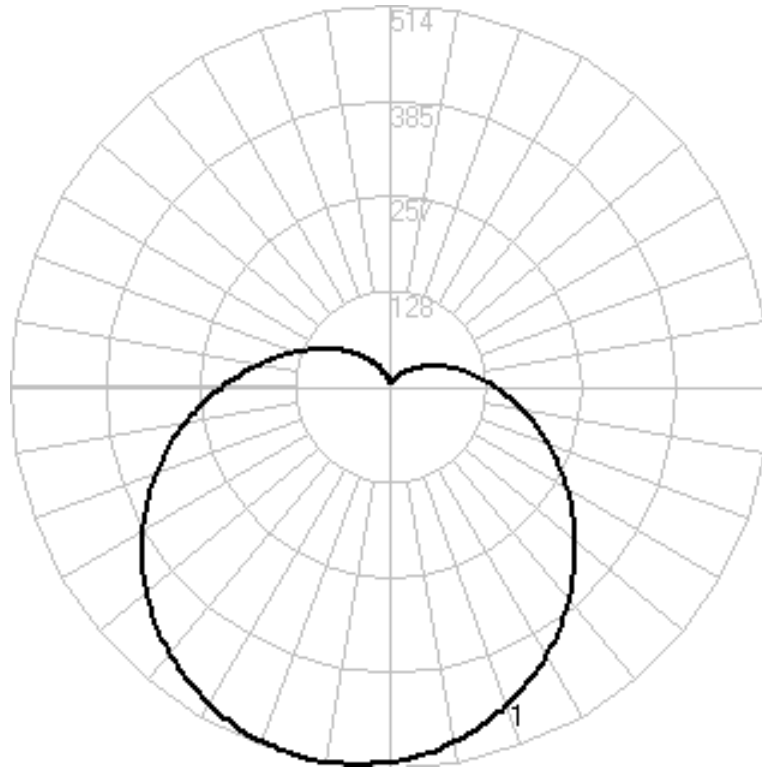
Ordering Information for 4' 15W Models

Example: T8T430-15

Product	Size	CCT	-15
T8T	4 4'	30 3000K	
		35 3500K	
		41 4100K	
		50 5000K	
		60 6000K	

UniV8 LED T8 Tube

PHOTOMETRY



Curve 1: 0 degree

FL-T8U450-15W-BN

Performance Data

Delivered Lumens (lms)	2025
Input Wattage (W)	15
Efficacy (LpW)	135.0
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	396.58	19.60
0-40	656.06	32.40
0-60	1205.93	59.60
0-90	1751.52	86.50
40-70	785.79	38.80
60-80	419.06	20.70
0-180	2025.04	100.00



T8 LED Integrated Lamp

Forest Lighting T8 LED Integrated Lamps perform efficiently in conditions where low voltage, halogen, or fluorescent luminaires have traditionally been used. Our LED tubes incorporate integral drivers, are self-supporting, and can be surface mounted. Individual units can be plugged together for continuous lengths up to 20 feet. Forest T8 LED Integrated Lamps connect directly to line voltage and can be used in any interior space.



FEATURES & BENEFITS

- Operates directly from line voltage
- Usable as a stand alone fixture
- Units plug together
- Suitable for damp locations
- For use with G5 connectors
- Rated lifetime of 50,000 hrs
- DLC listed for utility rebates

T8 INTEGRATED LAMP MODELS

MODEL NO.	NOMINAL LENGTH	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
T8N230	2'	12	3000K	1200
T8N235	2'	12	3500K	1200
T8N241	2'	12	4100K	1200
T8N250	2'	12	5000K	1200
T8N260	2'	12	6000K	1200
T8N430	4'	19	3000K	1900
T8N435	4'	19	3500K	1900
T8N441	4'	19	4100K	1900
T8N450	4'	19	5000K	1900
T8N460	4'	19	6000K	1900

WARRANTY



LISTINGS AND CERTIFICATIONS



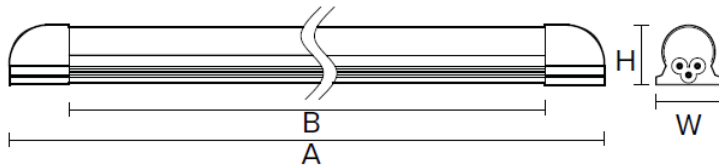
T8 Integrated LED Lamp

SPECIFICATION INFORMATION

Input Voltage	100-277V, 50/60Hz
Base	G5
Correlated Color Temperature (CCT)	3000K, 3500K, 4100K, 5000K, 6000K
Color Rendering Index	>80
Beam Angle	120°
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions			Weight
	A	B	H x W	
T8N2	23.62"	21.20"	1.30" x 1.30"	4.23 oz
T8N4	47.24"	45.20"	1.30" x 1.30"	7.70 oz

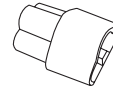


ORDERING INFORMATION

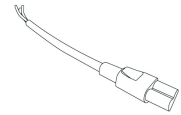
Example: T8N230

Product	Size	CCT
T8N	2 2'	30 3000K
	4 4'	35 3500K
		41 4100K
		50 5000K
		60 6000K

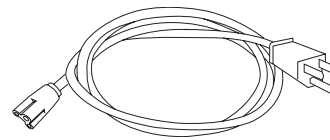
PARTS AND ACCESSORIES



1" T8 Connector, included - T8-DE-CONN (Included)



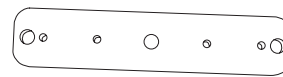
12" T8 Power Connector, included - T8 DE-PW-CONN (Included)



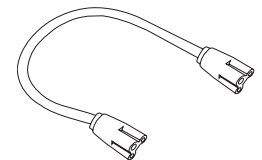
36" T8 Power Cord - INT-36-PC
72" T8 Power Cord - INT-72-PC



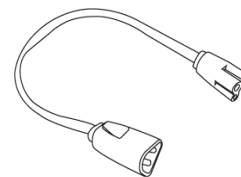
36" T8 Power Cord - INT-36-PC-SWITCH
72" T8 Power Cord - INT-72-PC-SWITCH



4" T8 Crossbar - CB-T8



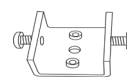
12" T8 Connector Cable - INT-M2M-J
24" T8 Connector Cable - INT-M2M-J-24
36" T8 Connector Cable - INT-M2M-J-36
48" T8 Connector Cable - INT-M2M-J-48



12" Male to Female Jumper Cable INT-M2F-J
24" Male to Female Jumper Cable INT-M2F-J-24
36" Male to Female Jumper Cable INT-M2F-J-36
48" Male to Female Jumper Cable INT-M2F-J-48



Tilt Stand N-TL-UM



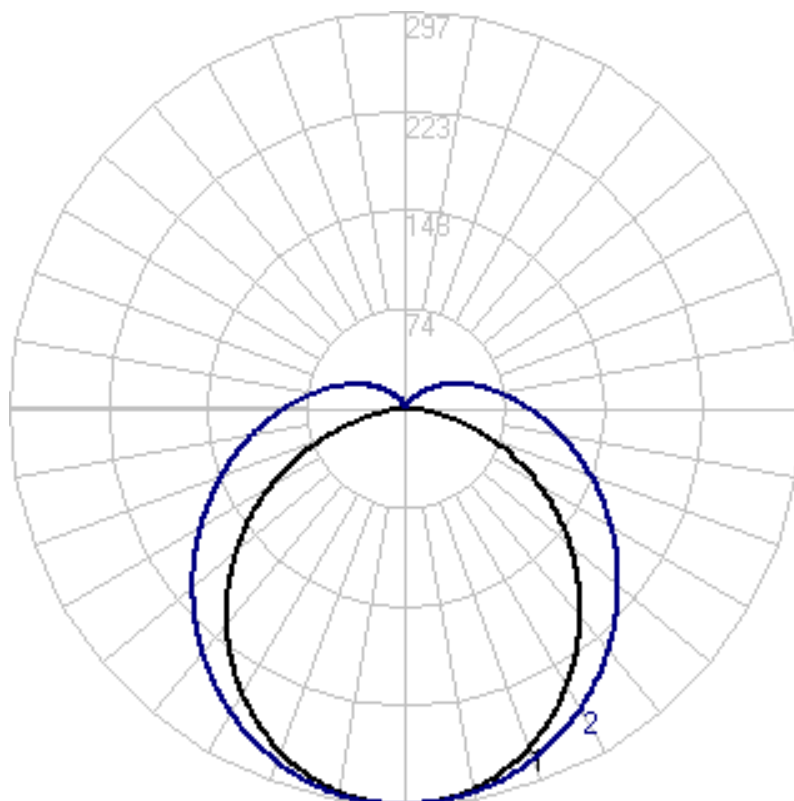
Heavy Duty Clip T8N-C-UM



Heavy Duty Double Wide Clip T8N-DC-UM

T8 Integrated LED Lamp

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

T8N230

Performance Data

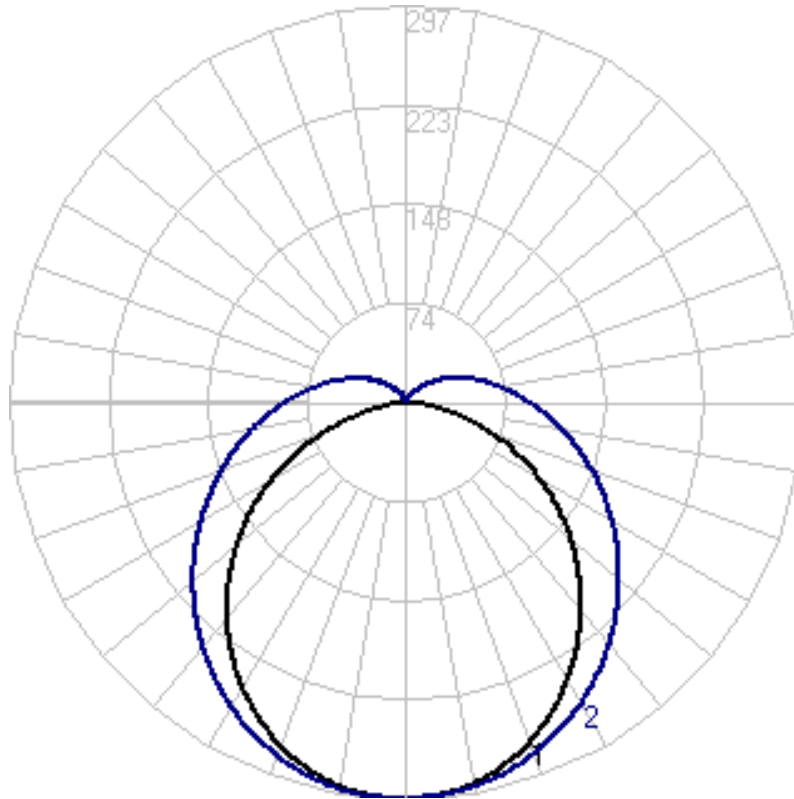
Delivered Lumens (lms)	1119
Input Wattage (W)	11.7
Efficacy (LpW)	95.6
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	230.82	20.60
0-40	379.55	33.90
0-60	687.77	61.50
0-90	991.04	88.60
40-70	438.07	39.20
60-80	231.11	20.70
0-180	1118.59	100.00

T8 Integrated LED Lamp

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

T8N430

Performance Data

Delivered Lumens (lms)	1775
Input Wattage (W)	17.85
Efficacy (LpW)	99.4
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	401.83	22.60
0-40	658.33	37.10
0-60	1176.01	66.30
0-90	1633.65	92.10
40-70	724.48	40.80
60-80	358.52	20.20
0-180	1774.54	100.00



T5 LED Integrated Lamp

Forest Lighting T5 LED Integrated Lamps are designed to perform efficiently in conditions where fluorescent, halogen and low voltage luminaires have traditionally been used. Our LED tubes incorporate integral drivers, are self-supporting, and can be surface-mounted. Individual units can be plugged together for continuous lengths up to 20 feet. Forest Lighting T5 LED Integrated Lamps connect directly to line voltage and can be used in any interior space.

T5 INTEGRATED LAMP MODELS

MODEL NO.	NOMINAL LENGTH	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
T5N130	1'	5	3000K	550
T5N135	1'	5	3500K	550
T5N141	1'	5	4100K	550
T5N150	1'	5	5000K	550
T5N160	1'	5	6000K	550
T5N230	2'	12	3000K	1231
T5N235	2'	12	3500K	1231
T5N241	2'	12	4100K	1231
T5N250	2'	12	5000K	1231
T5N260	2'	12	6000K	1231
T5N330	3'	14	3000K	1462
T5N335	3'	14	3500K	1462
T5N341	3'	14	4100K	1462
T5N350	3'	14	5000K	1462
T5N360	3'	14	6000K	1462
T5N430	4'	19	3000K	1998
T5N435	4'	19	3500K	1998
T5N441	4'	19	4100K	1998
T5N450	4'	19	5000K	1998
T5N460	4'	19	6000K	1998

FEATURES & BENEFITS

- Operates directly from line voltage
- Usable as a stand alone fixture
- Units plug together
- Suitable for damp locations
- For use with G5 connectors
- Rated lifetime of 50,000 hrs
- DLC Listed for utility rebate

WARRANTY
5 Year Warranty



LISTINGS AND CERTIFICATIONS



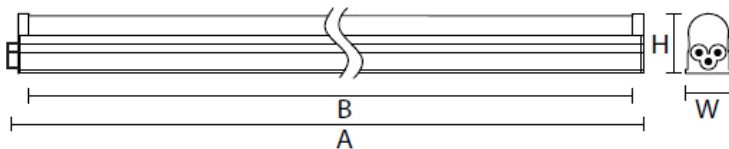
T5 Integrated LED Lamp

SPECIFICATION INFORMATION

Input Voltage	100-277V , 50/60Hz
Base	G5
Correlated Color Temperature (CCT)	3000K, 3500K, 4100K, 5000K, 6000K
Color Rendering Index	>80
Beam Angle	120°
Operating Temperature	-20° ~ +40°C

MECHANICAL SPECIFICATIONS

Model Series	Dimensions			Weight
	A	B	H x W	
T5N1	12.31"	11.56"	1.18" x 0.87"	1.69 oz
T5N2	22.90"	22.15"	1.18" x 0.87"	3.20 oz
T5N3	34.95"	34.20"	1.18" x 0.87"	4.72 oz
T5N4	46.96"	46.21"	1.18" x 0.87"	5.33 oz



ORDERING INFORMATION CLIP 1.JPG

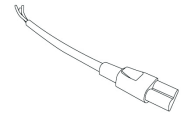
Example: T5N141

Product	Size	CCT
T5N	1 1'	30 3000K
	2 2'	35 3500K
	3 3'	41 4100K
	4 4'	50 5000K
		60 6000K

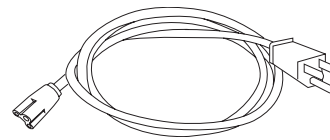
PARTS AND ACCESSORIES



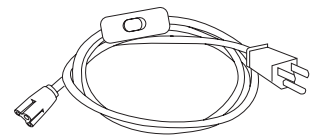
T5 Endcap, included - EC-T5
(Included)



6" T5 Power Connector, included - T5 DE-PW-CONN
(Included)
12" T5 Power Connector, included - T5 DE-PW-CONN



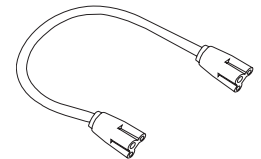
36" T5 Power Cord - INT-36-PC
72" T5 Power Cord - INT-72-PC



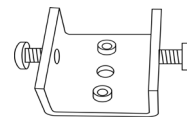
36" T5 Power Cord - INT-36-PC-SWITCH
72" T5 Power Cord - INT-72-PC-SWITCH



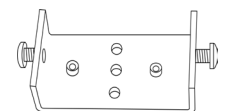
12" Male to Female Jumper Cable INT-M2F-J
24" Male to Female Jumper Cable INT-M2F-J-24
36" Male to Female Jumper Cable INT-M2F-J-36



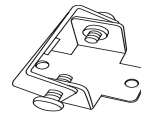
12" T5 Connector Cable - INT-M2M-J
24" T5 Connector Cable - INT-M2M-J-24
36" T5 Connector Cable - INT-M2M-J-36
48" T5 Connector Cable - INT-M2M-J-48



Heavy Duty Clip T5N-C-UM



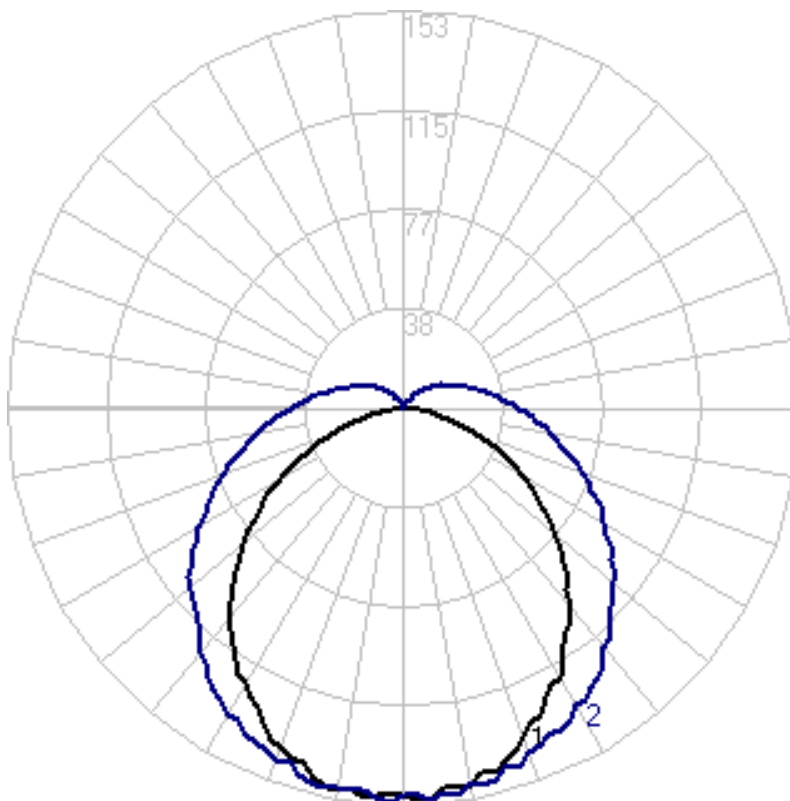
Heavy Duty Double Wide Clip T5N-DC-UM



Tilt Stand N-TL-UM

T5 Integrated LED Lamp

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

T5N230

Performance Data

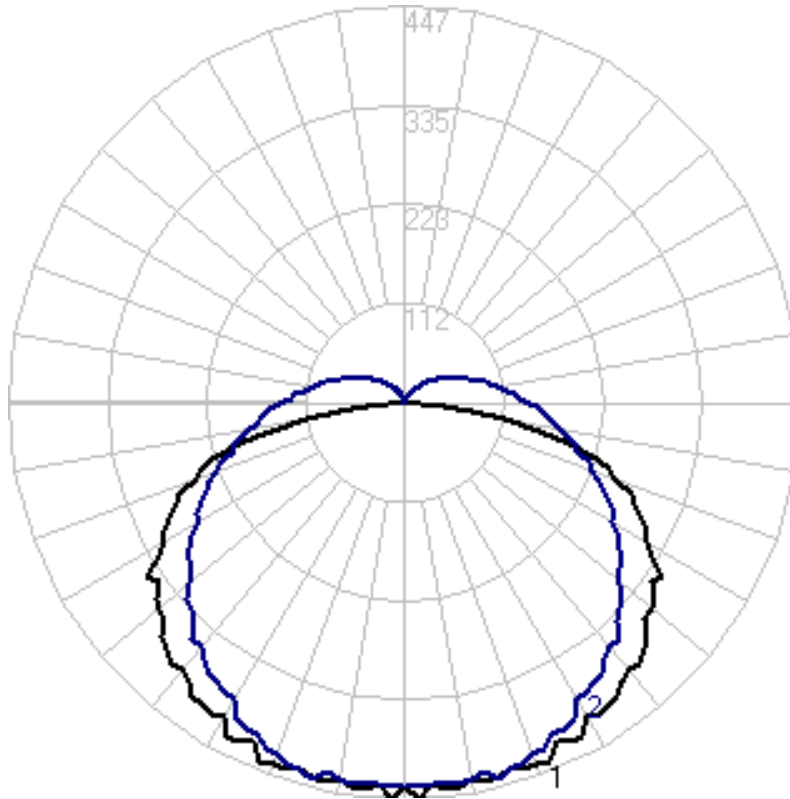
Delivered Lumens (lms)	552
Input Wattage (W)	4.86
Efficacy (LpW)	113.6
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	116.82	21.20
0-40	191.95	34.80
0-60	345.87	62.70
0-90	492.21	89.20
40-70	217.52	39.40
60-80	112.29	20.40
0-180	551.52	100.00

T5 Integrated LED Lamp

PHOTOMETRY



Curve 1: 0 degree
Curve 2: 90 degree

T5N430

Performance Data

Delivered Lumens (lms)	1999
Input Wattage (W)	18.7
Efficacy (LpW)	106.9
Voltage (V)	120

Zonal Lumen Summary

Zone	Lumens	% of Fixture
0-30	352.78	17.70
0-40	595.11	29.80
0-60	1148.48	57.50
0-90	1764.79	88.30
40-70	812.14	40.60
60-80	471.26	23.60
0-180	1998.64	100.00



FOREST LIGHTING

Sustainable illumination



Dimmable

LED Omnidirectional A19

Forest Lighting omnidirectional and dimmable LED A19 bulbs are ideal for hotels, restaurants, apartments and other residential buildings. With an emission angle of over 300°, they provide comfortable diffused light with no unnatural shadows. Forest Lighting LED A19 Lamps are offered in 9W, 11W and 15W that replace 60W, 75W and 100W incandescent bulbs, respectively, saving tremendous amount of energy.

FEATURES & BENEFITS

- Omnidirectional, >300° beam angle
- Natural A-lamp shape
- Dimmable
- Ideal for hotels, restaurants and residential buildings
- Models equivalent to 60W, 75W and 100W incandescent bulbs
- Rated lifetime of 25,000 Hrs
- Energy Star listed for rebates

A19 MODELS

MODEL NO.	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
A19-9W30KD-L7-LS	9	3000K	800
A19-9W50KD-L7-LS	9	5000K	800
A19-11W30KD-L7-LS	11	3000K	1100
A19-11W50KD-DEC-L7-LS*	11	5000K	1100
A19-15W30KD-L7-LS	15	3000K	1600
A19-15W50KD-L7-LS	15	5000K	1600

*Suitable for enclosed fixture

WARRANTY
3 Year Warranty



LISTINGS AND CERTIFICATIONS



LED Omnidirectional A19

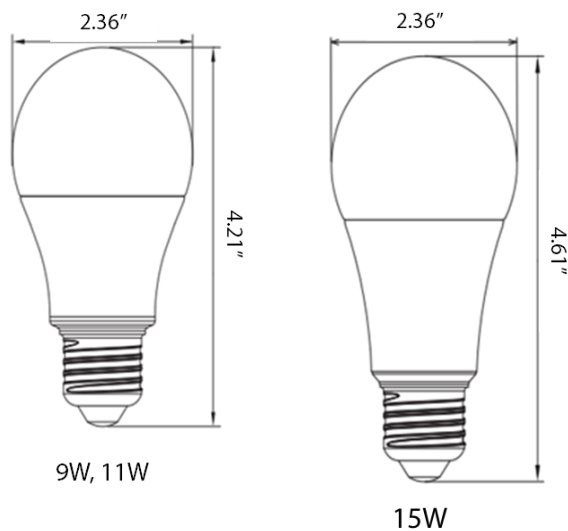
SPECIFICATION INFORMATION

Input Power	9W (60W equivalent), 11W (75W equivalent), 15W (100W equivalent)
Input Voltage	120V / 60Hz
Power Factor	> 0.9
Base Type	E26

OPTICAL SPECIFICATIONS

Correlated Color Temperature (CCT)	3000K, 5000K
Color Rendering Index	>80
Beam Angle	>300°

MECHANICAL SPECIFICATIONS



ORDERING INFORMATION

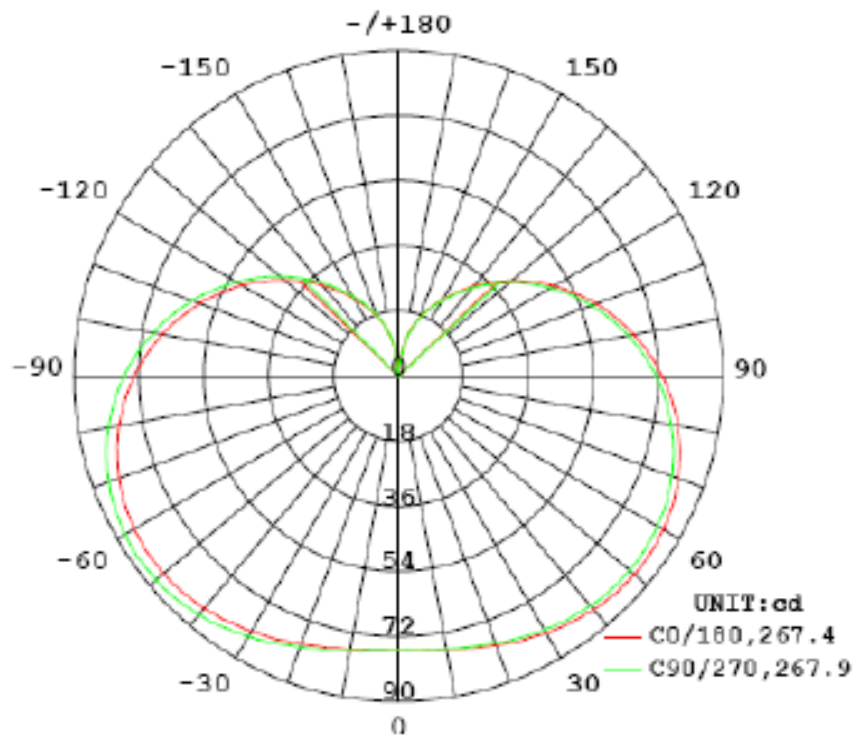
Example: A19-11W30KD-L7-LS

Product	Nominal Input Power	CCT	D-L7-LS
A19	9W 9W	30K 3000K	D-L7-LS
	11W 11W	50K 5000K	DEC-L7-LS*
	15W 15W		

*DEC-L7-LS only for model A19-11W50KD-DEC-L7-LS

LED Omnidirectional A19

PHOTOMETRY

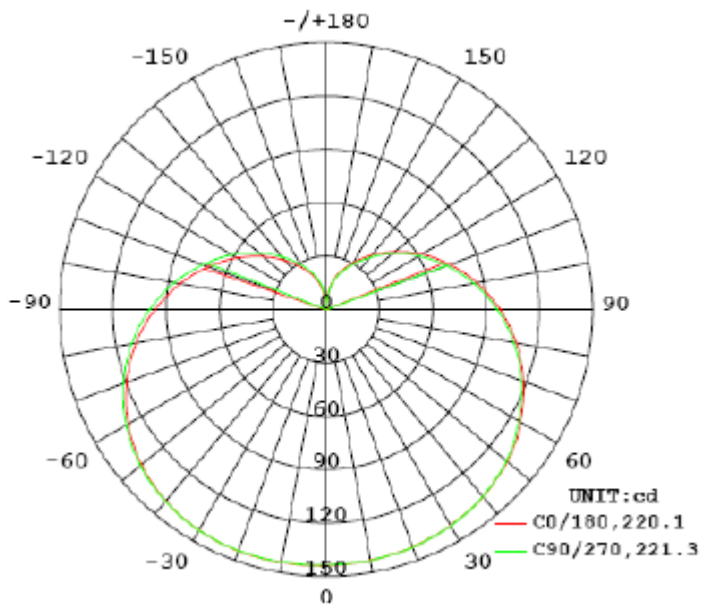


Performance Data

Delivered Lumens (lms)	813
Input Wattage (W)	8.75
Efficacy (LpW)	92.9
Voltage (V)	120

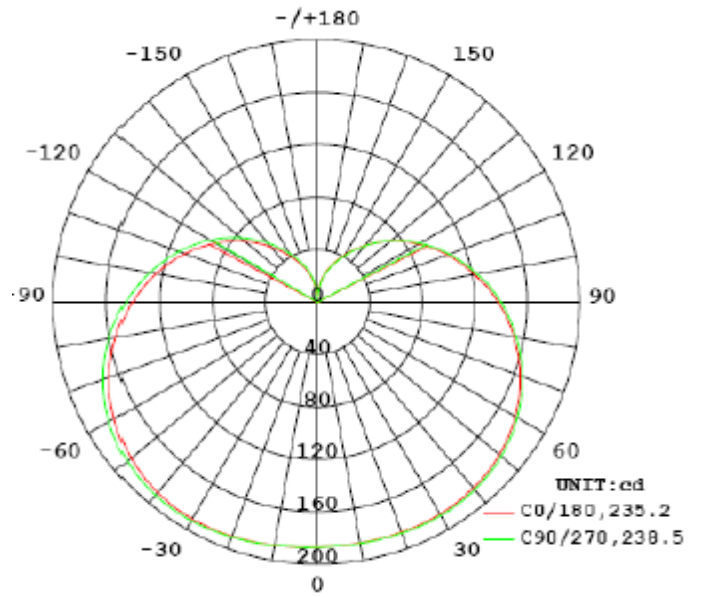
LED Omnidirectional A19

PHOTOMETRY



Performance Data

Delivered Lumens (lms)	1159
Input Wattage (W)	10.8
Efficacy (LpW)	107.3
Voltage (V)	120



Performance Data

Delivered Lumens (lms)	1635
Input Wattage (W)	14.98
Efficacy (LpW)	109.2
Voltage (V)	120



FOREST LIGHTING

Sustainable illumination



Dimmable LED BR30



Dimmable

Forest Lighting dimmable LED BR30 bulb is ideal for hotels, restaurants, apartments and other residential buildings. Its typical Color Rendering Index of 92 makes colors more vibrant and richer in the environment it illuminates. By providing over 800lm while consuming only 11W, it replaces 65W incandescent lamps and saves tremendous amount of energy.



FEATURES & BENEFITS

- Ideal for hotels, restaurants, apartments and other residential buildings.
- CRI >90, R9=56
- Equivalent to 65W incandescent
- Rated lifetime of 25,000 Hrs
- Energy Star listed for rebates



BR30 MODELS

MODEL NO.	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
BR30-11W30KDH-L4-LS	11	3000K	800
BR30-11W40KDH-L4-LS	11	4000K	800
BR30-11W50KDH-L4-LS	11	5000K	800

WARRANTY
3 Year Warranty



LISTINGS AND CERTIFICATIONS



Dimmable LED BR30

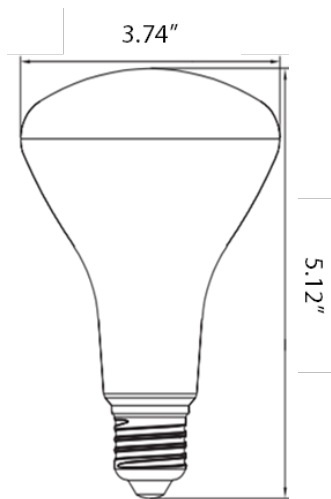
SPECIFICATION INFORMATION

Input Power	11W (65W equivalent)
Input Voltage	120V / 60Hz
Input Current	0.09A
Power Factor	> 0.9
Base Type	E26

OPTICAL SPECIFICATIONS

Correlated Color Temperature (CCT)	3000K, 4000K, 5000K
Color Rendering Index	>90, R9=56
Luminous Flux	800 lm
Efficacy	73lm/W
Beam Angle	120°

MECHANICAL SPECIFICATIONS



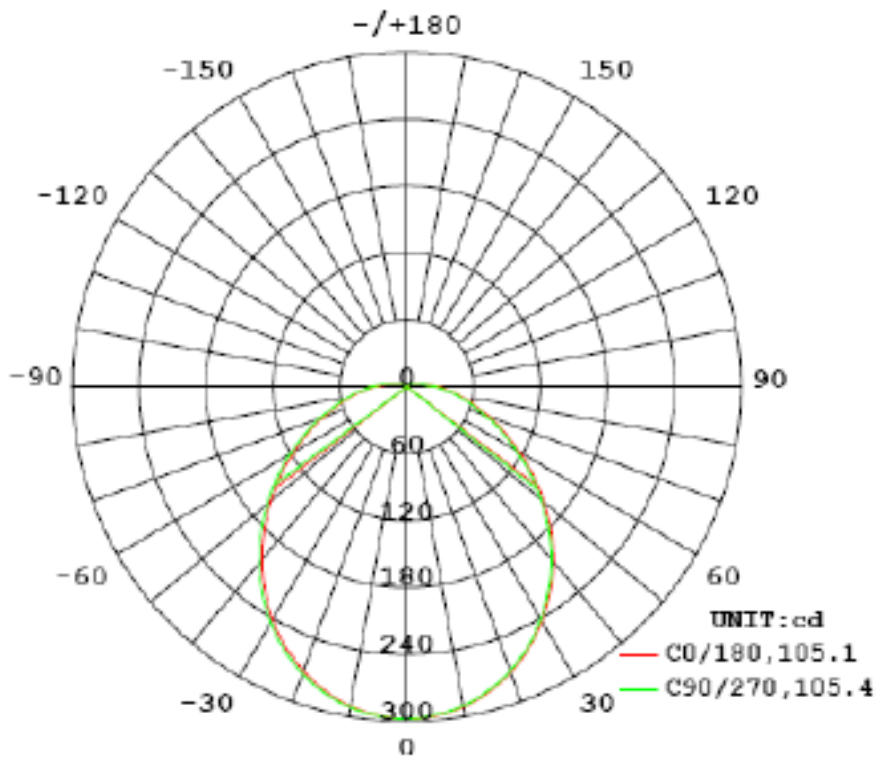
ORDERING INFORMATION

Example: BR30-11W30KDH-L4-LS

Product	Nominal Input Power	CCT	DH-L4-LS
BR30	11W 11W	30K 3000K	
		40K 4000K	
		50K 5000K	

Dimmable LED BR30

PHOTOMETRY



Performance Data

Delivered Lumens (lms)	881
Input Wattage (W)	10.27
Efficacy (LpW)	85.8
Voltage (V)	120



FOREST LIGHTING

Sustainable illumination



Dimmable LED BR40



Dimmable

Forest Lighting dimmable LED BR40 bulb is ideal for hotels, restaurants, apartments and other residential buildings. Its typical Color Rendering Index of 92 makes colors more vibrant and richer in the environment it illuminates. By providing over 1000lm while consuming only 13W, it replaces 75W incandescent lamps and saves tremendous amount of energy.

FEATURES & BENEFITS

- Ideal for hotels, restaurants, apartments and other residential buildings
- CRI >90, R9=57
- Equivalent to 75W incandescent
- Rated lifetime of 25,000 Hrs
- Energy Star listed for rebates



BR40 MODELS

MODEL NO.	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
BR40-13W30KDH-L4-LS	13	3000K	1000
BR40-13W40KDH-L4-LS	13	4000K	1000
BR40-13W50KDH-L4-LS	13	5000K	1000

WARRANTY

3 Year Warranty



LISTINGS AND CERTIFICATIONS



Dimmable LED BR40

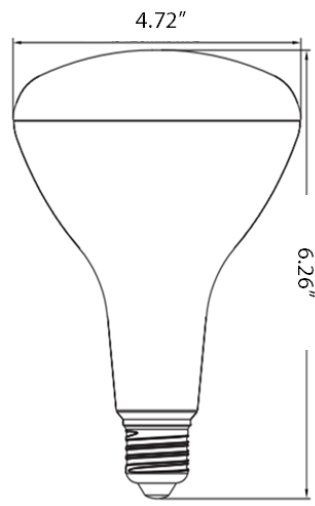
SPECIFICATION INFORMATION

Input Power	13W (75W equivalent)
Input Voltage	120V / 60Hz
Input Current	0.11A
Power Factor	> 0.9
Base Type	E26

OPTICAL SPECIFICATIONS

Correlated Color Temperature (CCT)	3000K, 4000K, 5000K
Color Rendering Index	>90, R9=57
Luminous Flux	1000 lm
Efficacy	77lm/W
Beam Angle	120°

MECHANICAL SPECIFICATIONS



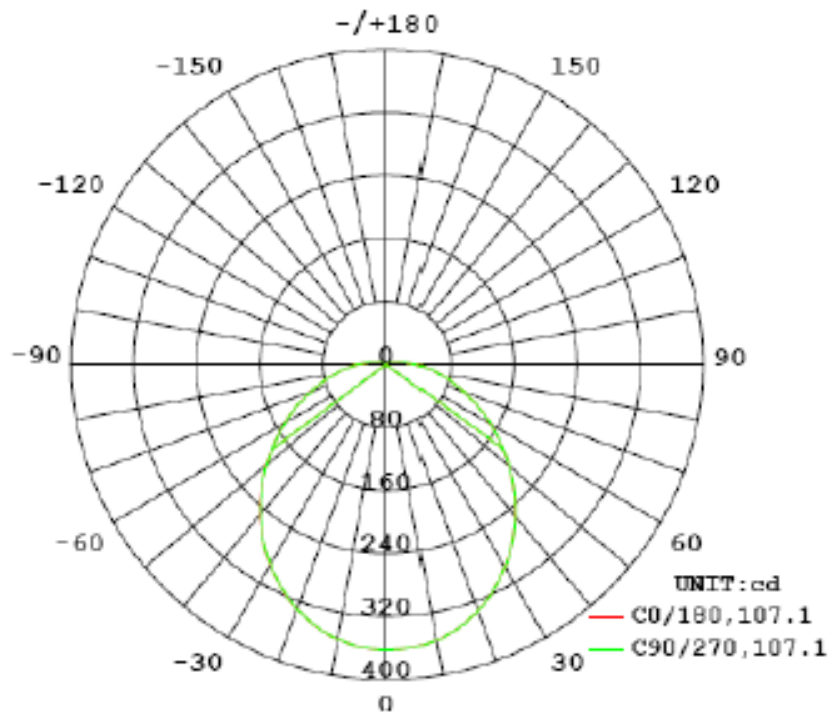
ORDERING INFORMATION

Example: BR40-13W30KDH-L4-LS

Product	Nominal Input Power	CCT	DH-L4-LS
BR40	13W 13W	30K 3000K	
		40K 4000K	
		50K 5000K	

Dimmable LED BR40

PHOTOMETRY



Performance Data

Delivered Lumens (lms)	1104
Input Wattage (W)	12.53
Efficacy (LpW)	88.1
Voltage (V)	120



FOREST LIGHTING

Sustainable illumination



Dimmable LED PAR30



Dimmable

Forest Lighting dimmable LED PAR30 bulb is ideal for track lighting, recessed downlighting, ambient and accent lighting applications. Its Color Rendering Index of 90+ makes colors more vibrant and richer in the environment it illuminates. By providing over 850lm while consuming only 12W, it replaces 75W PAR30 lamps and saves tremendous amount of energy.

FEATURES & BENEFITS

- Ideal for track lighting, recessed downlighting, ambient and accent lighting
- CRI >90, R9=52
- Equivalent to 75W PAR30
- Rated lifetime of 25,000 Hrs
- Energy Star listed for rebates



PAR30 MODELS

MODEL NO.	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
PAR30L-12W30KDH-L4-LS	12	3000K	850
PAR30L-12W40KDH-L4-LS	12	4000K	850
PAR30L-12W50KDH-L4-LS	12	5000K	850

WARRANTY

3 Year Warranty



LISTINGS AND CERTIFICATIONS



Dimmable LED PAR30

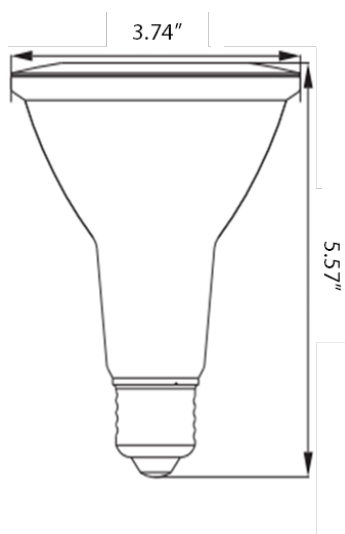
SPECIFICATION INFORMATION

Input Power	12W (75W equivalent)
Input Voltage	120V / 60Hz
Input Current	0.10A
Power Factor	> 0.9
Base Type	E26

OPTICAL SPECIFICATIONS

Correlated Color Temperature (CCT)	3000K, 4000K, 5000K
Color Rendering Index	>90, R9=52
Luminous Flux	850 lm
Efficacy	71lm/W
Beam Angle	40°, Flood

MECHANICAL SPECIFICATIONS



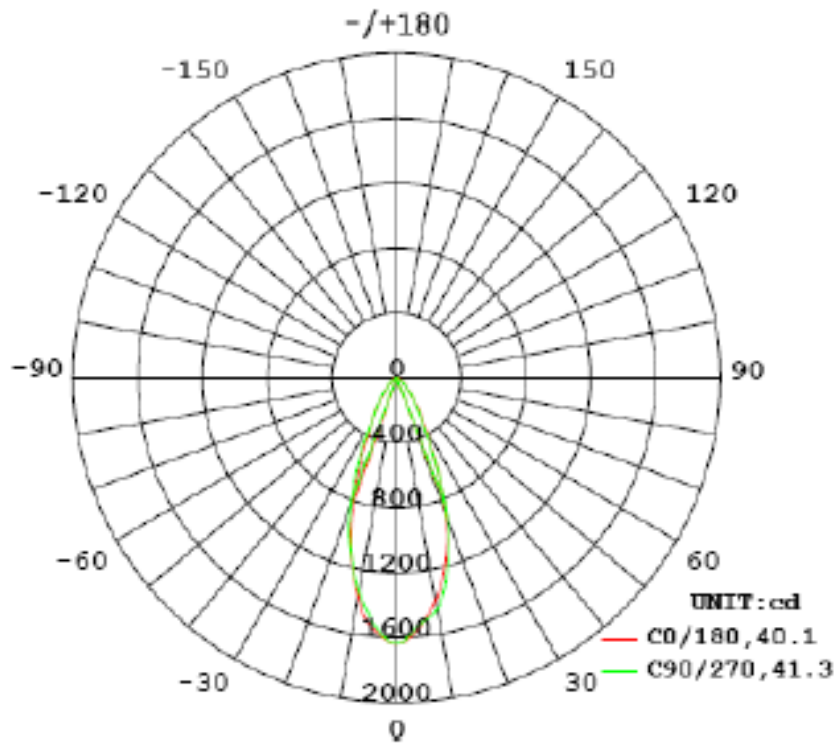
ORDERING INFORMATION

Example: PAR30L-12W40KDH-L4-LS

Product	Nominal Input Power	CCT	DH-L4-LS
PAR30L	12W 12W	30K 3000K	
		40K 4000K	
		50K 5000K	

Dimmable LED PAR30

PHOTOMETRY



Performance Data

Delivered Lumens (lms)	968
Input Wattage (W)	11.44
Efficacy (LpW)	84.6
Luminous Intensity (cd) (max)	1640
Voltage (V)	120



FOREST LIGHTING

Sustainable illumination



Dimmable LED PAR38



Dimmable

Forest Lighting dimmable LED PAR38 bulb is perfect for track lighting, recessed downlighting, ambient and accent lighting applications. Its Color Rendering Index of 92 makes colors more vibrant and richer in the environment it illuminates. By providing over 1050lm while consuming only 15W, it replaces 100W PAR38 lamps and saves tremendous amount of energy.

FEATURES & BENEFITS

- Ideal for track lighting, recessed downlighting, ambient and accent lighting
- CRI >90, R9=56
- Equivalent to 100W PAR38
- Energy Star listed for rebates



PAR38 MODELS

MODEL NO.	INPUT POWER (W)	CCT	DELIVERED LIGHT OUTPUT (LM)
PAR38-15W30KDH-L4-LS	15	3000K	1050
PAR38-15W40KDH-L4-LS	15	4000K	1050
PAR38-15W50KDH-L4-LS	15	5000K	1050

WARRANTY



LISTINGS AND CERTIFICATIONS



Dimmable LED PAR38

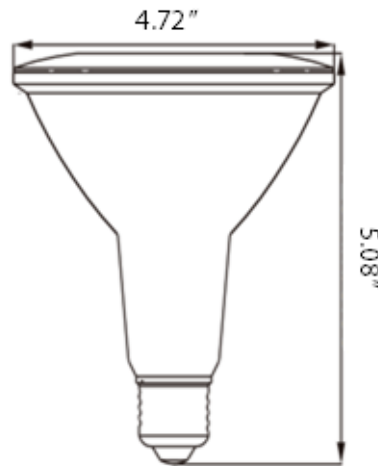
SPECIFICATION INFORMATION

Input Power	15W (100W equivalent)
Input Voltage	120V / 60Hz
Input Current	0.129A
Power Factor	> 0.9
Base Type	E26

OPTICAL SPECIFICATIONS

Correlated Color Temperature (CCT)	3000K, 4000K, 5000K
Color Rendering Index	>90, R9=56
Luminous Flux	1050 lm
Efficacy	70lm/W
Beam Angle	40°, Flood

MECHANICAL SPECIFICATIONS



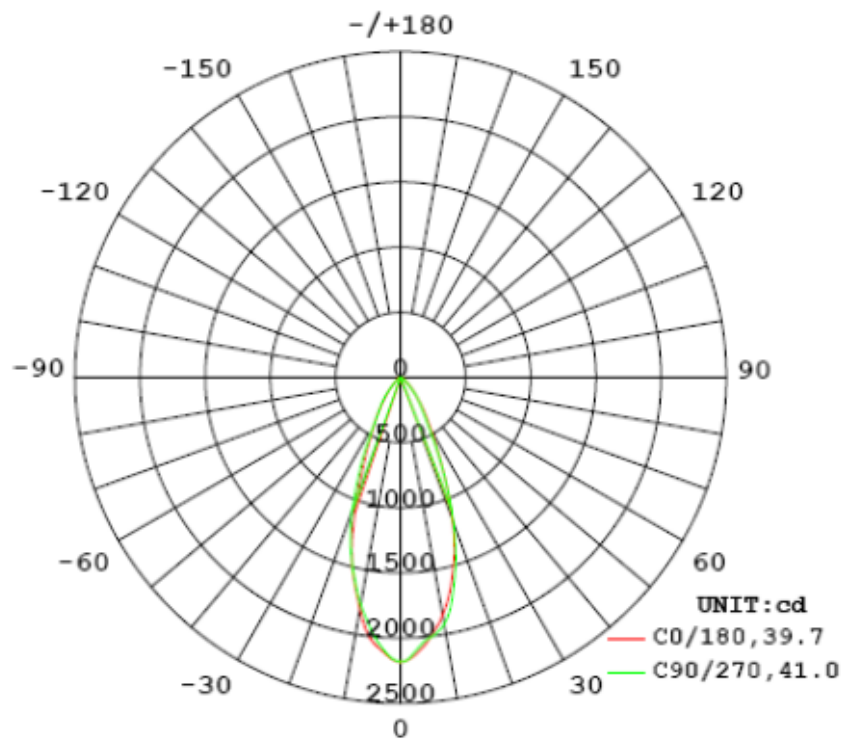
ORDERING INFORMATION

Example: PAR38-15W30KDH-L4-LS

Product	Nominal Input Power	CCT	DH-L4-LS
PAR38	15W 15W	30K 3000K	
		40K 4000K	
		50K 5000K	

Dimmable LED PAR38

PHOTOMETRY



Performance Data

Delivered Lumens (lms)	1266
Input Wattage (W)	14.56
Efficacy (LpW)	86.9
Luminous Intensity (cd)	2182
Voltage (V)	120

FOREST LIGHTING LIMITED EXPRESS WRITTEN WARRANTY

FOREST LIGHTING CORPORATION (“FOREST LIGHTING” or the “Company”) is pleased to extend this Limited Express Written Warranty (“Warranty”). This Warranty is applicable only to *FOREST LIGHTING and MLS*, the parent company of FOREST LIGHTING, branded lighting products purchased from the Company or an authorized distributor of the Company (“Products”). FOREST LIGHTING warrants each Product to be free from defects in workmanship and materials and to operate from the date of invoice for the time periods and subject to the Terms and Conditions specified below. If a Product fails because of a defect due to workmanship and/or material during the specified warranty period, FOREST LIGHTING will repair or replace the Product or defective part in accordance with the Terms and Conditions set forth below (labor is not included).

TERMS AND CONDITIONS

This Warranty applies only to Products manufactured by FOREST LIGHTING that have been properly wired and installed; that have been operated within electric values contained within the FOREST LIGHTING product specifications; and in environmental conditions (temperature, humidity, air movement) within the normal specified operating range as noted in the specifications. In case of LED Retrofits Products, they must be used in lighting equipment designed and approved for the application.

This Warranty only applies when Products operate in the following recommended conditions:

- Warranty period covers FIVE (5) years from the date of purchase
- Do not exceed the Tc point or case temperature specified in the product specifications
- Operate at rated Voltage or Current specified
- Do not exceed the published ambient operating temperature for the Product
- LED Retrofits Products are operated in an open luminaire (and closed luminaire for LED tubes), with minimum 10mm air around the body of the LED Retrofits Products
- Relative humidity in the installation never exceeds 80% RH, and never exceeds the IP rating of the Product, if any, is provided
- Products are not subject to more than a total of 50,000 switching cycles (with a switching cycle defined as ≤ 30 seconds ‘on’ and ≤ 30 seconds ‘off’)
- The electrical installation in which the Product operates is not subject to voltage fluctuations in a range exceeding +/- 10% of the specified voltage of the product
- Dimming applicable to instructions on packaging or lamp markings
- Measures must be in place to prevent lightning strikes or transients above ANSI C62.42 Category A1 at the input of the power supply

This FOREST LIGHTING Warranty is non-transferrable and applies only to the original customer of the FOREST LIGHTING Product. This Warranty shall be void in the event of any repairs or alternations, not duly authorized by FOREST LIGHTING in writing, are made to the Products by any person.

No agent, distributor or dealer is authorized to change, modify or extend the terms of this Warranty under any circumstances.

EXCLUSIONS

The Limited Express Written Warranty is NOT applicable to Products damaged due to:

- Abnormal use, abuse and accident;
- Disassembly of the Product;
- Alteration of the Product and/or replacement of the components by an entity not duly authorized by FOREST LIGHTING;
- Wiring and usage in violation of any applicable standard or code including those contained within the latest National Electrical Code (NEC); the Standards for Safety of Underwriters Laboratory, Inc. (UL); Standards for American National Standards Institute (ANSI); or in Canada, the Canadian Standards Association (CSA) and any other applicable electrical code;
- Under/over voltage/current situations; power surges or failures; improper power supply; fault or negligence of the user; improper or unauthorized use;
- Abnormal stress including excessive switching cycles;
- Error in installation and/or improper handling or storage;
- Corrosion beyond that stated within the specifications;
- Acts of God; fire; vandalism; civil disturbance.

FOREST LIGHTING reserves the right to examine failed Products to determine the cause of the failure and patterns of usage and reserves the right to be the sole judge as to whether any of these components are defective and covered under this Warranty.

WARRANTY CLAIM PROCESS

In order to receive the benefits of this Warranty, customers must provide the following information within **thirty (30)** days of failure:

- Product ID, proof of purchase and date of purchase;
- Date of failure;
- Detailed explanation of issue; and
- Contact person name, phone number and email address.

The customer may submit a warranty claim one of two ways:

1. By calling FOREST LIGHTING Customer Service at **1.800.994.2143** or
2. By sending an email to the FOREST LIGHTING Customer Service department at customerservice@forestlighting.com.

FOREST LIGHTING will review the claim and if tentative approval is given, a Return Material Authorization (“RMA”) number will be issued. If requested by FOREST LIGHTING, the user shall promptly return the Product at the user’s sole expense after receiving instructions regarding when and where to ship the Product. Products should be shipped freight pre-paid to the address provided with your RMA. The Product must be returned within **fifteen (15) days** of receiving the RMA number. The shipping box must be clearly marked with the RMA number. Failure to follow this procedure will void the Warranty.

If FOREST LIGHTING determines that the cause of the problem was due to a defect in the material and/or workmanship, FOREST LIGHTING, at its discretion, will either repair the damaged Product or replace it at no charge to the customer. If requested by FOREST LIGHTING, the non-conforming or defective Products shall become FOREST LIGHTING’s property as soon as they have been replaced.

Adequate records of operating history shall be available for inspection by FOREST LIGHTING.

LIMITATIONS OF LIABILITY

THE FOREGOING SHALL CONSTITUTE THE EXCLUSIVE REMEDY OF THE CUSTOMER AND THE SOLE LIABILITY OF FOREST LIGHTING. FOREST LIGHTING SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. NO WARRANTY OF MERCHANTABILITY, NON-INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OR IS TO BE IMPLIED. THIS WARRANTY IS EXCLUSIVE OF ALL OTHER WRITTEN OR ORAL WARRANTIES AND NO OTHER WARRANTIES OF ANY KIND ARE GIVEN AND ARE EXPRESSLY DISCLAIMED.

UNDER NO CIRCUMSTANCES, WHETHER AS A RESULT OF BREACH OF CONTRACT, BREACH OF WARRANTY, TORT, STRICT LIABILITY OR OTHERWISE, WILL FOREST LIGHTING BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE OR DAMAGE TO PROPERTY, EQUIPMENT OR LOSS OF CAPITAL; COST OF SUBSTITUTE PRODUCT, FACILITIES OR SERVICES; OR DOWN TIME COSTS. TO THE FULLEST EXTENT PERMITTED BY LAW, FOREST LIGHTING'S TOTAL LIABILITY FOR ALL CLAIMS OF ANY KIND OR FOR ANY LOSS OR DAMAGE ARISING OUT OF USE OF AN FOREST LIGHTING PRODUCT, SHALL NOT EXCEED THE PURCHASE PRICE OF THE SPECIFIC PRODUCT WHICH GIVES RIGHT TO THE CLAIM.

Final disposition of any warranty claim will be determined solely by FOREST LIGHTING.

Appendix A

The following products have only 3 years warranty

A19
Br30
Br40
Par30
Par38

Appendix B

The following products have 7 years warranty

Led Troffer

TERMS AND CONDITIONS OF SALES

The purpose of this document is to cover terms and conditions of commercial sales by Forest Lighting to its customers, effective on March 1, 2017.

1. Purchase Orders; Delivery; Payments.

(a) Purchase Orders. Buyer shall issue written purchase orders for the purchase of Products (the "Purchase Orders") to Forest Lighting, specifying the Products, the unit price and quantity of each Product it desires to purchase, the total purchase price for such Purchase Order, the shipment date and place of delivery for the Products. Forest Lighting shall have five (5) business days after the receipt of the Purchase Order to confirm, or change, such Purchase Order. Acceptance, or changes to, any Purchase Order have to be in writing sent to Buyer either electronically or by facsimile. If a Purchase Order is accepted, Forest Lighting shall send a written acceptance notice to Buyer. If Forest Lighting changes any Purchase Order by delivering a written notice of such changes (the "Revised Purchase Order") to Buyer, Buyer will confirm acceptance of the Revised Purchase Order within five (5) days upon receipt of such notice. Orders can be cancelled before shipment free of charge. If Buyer sends a cancellation request after the shipment, Buyer is responsible for outbound and return freight charges and a 15% restock fee.

(b) Purchase Prices. The purchase prices for the Products shall be the U.S. dollar prices published periodically and made available to Buyer by Forest Lighting. Any price changes shall be delivered to Buyer at least five (5) business days prior to the effective date of such changes, and the new prices will only be applicable to Purchase Orders delivered after such new prices become effective. The purchase prices shall be FOB point of shipment. Buyer shall be responsible for all relevant taxes, insurance, shipping and other charges relating to the purchase of the Products from Forest Lighting.

(c) Delivery. Buyer shall specify the common carrier for the shipment of the Products in the Purchase Order. In the event Buyer fails to specify such common carrier, Forest Lighting may, at its option, deliver the Products to the destination specified in Buyer's Purchase Order via common carrier reasonably acceptable to Buyer, or delay shipment of the Products until Buyer identifies such common carrier. Title to, and risk of loss to, the Products shall pass to Buyer upon delivery of the Products to the common carrier. Forest Lighting will assist Buyer in filing claims and replenish products when damages or loss occurs during transit.

(d) Case Quantity/Minimum Order Quantity ("MOQ") - **A minimum order of \$100 is required for any purchase order.** The case quantity stated in Forest Lighting Price List is the minimum order quantity per item for T8, T8 Integrated and T5 Integrated. A \$10 surcharge will still be applied to each item where the order is less than the minimum order quantity.

(e) Freight Allowance. Forest Lighting offers free shipping (lowest freight via a carrier of Forest's choice) for any single PO in the **\$1,000 or higher** to anywhere in the 48 continental states of USA.

(f) Payment. In the event the total purchase price set forth in the Purchase Order, plus all unpaid invoice amounts outstanding as of the date of such Purchase Order, exceeds the credit

limit to be established by Forest Lighting for Buyer, Forest Lighting reserves the right to request an advanced payment of a portion of the total purchase price (the “Deposit”). Forest Lighting shall submit an invoice for the Products ordered to Buyer within five (5) business days after the Purchase Order or Revised Purchase Order is accepted. Buyer shall pay to Forest Lighting the amount of such invoice, or the balance of such invoice taking into account any Deposit paid, within **forty-five (45) days** of the date of such invoice. In the event the invoice amount is not paid in full within such **45-day** period, Forest Lighting may hold off shipping further Products or reduce the amount of the Products to be shipped to Buyer; or if the Products ordered have been shipped, such unpaid amount shall carry interest at the rate of 18% per annum until paid in full. Forest Lighting offers **3%** discount of invoice amount (excluding freights, fees, taxes and etc.) for payment made within 10 calendar days from the date of invoice.

(g) Returns. Buyer can return unsold or unused products in their original packaging, if they are still currently available at Forest Lighting, with freight paid by Buyer for up to 6 months from the date of the invoice.

2. Covenants of Buyer.

(a) Local Office; Subcontracting. Buyer shall maintain one or more offices in the Territory and shall conduct all of its business in its own name. Buyer may appoint sub-Buyers to make sales of the Products within the Territory on such terms and conditions as Buyer determines to be necessary to fulfill its obligations under this Agreement; provided that no such appointment or delegation shall relieve Buyer from any obligations hereunder.

(b) Quality Control of Trademarks. Buyer shall conduct its business in a manner designed to enhance the reputation and integrity of the Trademarks and the goodwill associated therewith. Forest Lighting reserves all rights of approval necessary to achieve this result. Without limiting the foregoing, Buyer shall:

- i. adhere to all such trademark notices and legends as Forest Lighting may reasonably require from time to time or as required by applicable law;
- ii. use the Trademarks only as provided herein;
- iii. not use the Trademarks in violation of any law, statute, government regulation or standard;
- iv. not use the Trademarks in any way that could impair its validity as a trademark; and
- v. not register any domain name containing the Trademarks or any confusingly similar variation thereof.

Upon request by Forest Lighting, Buyer shall provide to Forest Lighting samples of corporate identity materials, marketing materials, and promotional materials on or in connection with which the Trademarks are used for Forest Lighting to review for quality control purposes. Buyer shall abide by any reasonable requests of Forest Lighting with respect to changes to such materials.

(c) Other Covenants. In addition to the obligations set forth elsewhere herein, during the Term of this Agreement, Buyer shall:

- i. cooperate with Forest Lighting in making sure that the Products comply with all applicable safety and other regulatory requirements;
- ii. use its best efforts to promote and sell the Products in the Territory;
- iii. maintain sufficient staffing and financial resources for the performance of this Agreement;
- iv. provide all customer support and post-sale services to customers;
- v. bear all the expenses incurred in connection with the performance of its obligations hereunder;
- vi. promptly notify Forest Lighting of any material dispute of which it becomes aware relating to the Products; and
- vii. fully comply with all laws applicable to the performance of its obligations under this Agreement and maintain all approvals and make all filings which may be required to perform its duties hereunder.

3. Covenants of Forest Lighting.

In addition to the obligations set forth elsewhere herein this Agreement, during the Term of this Agreement, Forest Lighting shall

- i. promptly provide Buyer written notice in the event the price list of Products is changed;
- ii. notify Buyer of any addition or cancellation of any Products sold by Forest Lighting, and unless such cancellation of any Product is a result of any recall or caused by safety or other regulatory concerns, such cancellation is not effective with regard to the outstanding Purchase Orders;
- iii. provide Buyer with information regarding the Products, including warranty information, for Buyer's advertisement of the Products;
- iv. comply with all laws and regulations applicable to the sale of the Products.

4. Warranties.

(a) **Standard Warranties.** Forest Lighting shall make available to Buyer its standard warranties, and shall promptly notify Buyer in writing if such warranties are amended. If Buyer receives any claim from a customer during the warranty period that the Product is defective, Buyer shall promptly notify Forest Lighting in writing of such claim, specifying in reasonable detail the nature of the defect, together with supporting evidences. After the receipt of such notice and information to Forest Lighting's satisfaction, at Forest Lighting's option, it may (a) replace the defective Product with conforming Product and have the defective Product returned to it at its cost, or (b) have Buyer repair the Product and reimburse Buyer for the costs of such repair. The part(ies) responsible for any labor charges related to removal and reinstallation duo to a warranty claim shall be negotiated by both parties in good faith only if the failure rate exceeds the industry norm.

(b) No Implied Warranties. EXCEPT AS EXPRESSLY PROVIDED HEREIN, Forest Lighting MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCTS, INCLUDING, WITHOUT LIMITATION, REPRESENTATION OR WARRANTY AS TO FITNESS FOR ANY PURPOSE OR MERCHANTABILITY. Buyer AGREES NOT TO MAKE ANY REPRESENTATIONS AND/OR WARRANTIES IN RESPECT OF THE PRODUCTS EXCEPT AS EXPRESSLY STATED IN THE APPLICABLE WRITTEN WARRANTY, IF ANY, ISSUED BY Forest Lighting.

5. Confidentiality.

(a) Definition. As used herein, “Confidential Information” means any data or information, oral or written, that Forest Lighting treats as confidential that relates to Forest Lighting, the Products or Forest Lighting’s past, present, or future research, development or business activities, including any unannounced product(s) and service(s), and any information relating to services, developments, inventions, processes, plans, technical know-how, financial matters, customer and supplier lists and related agreements, price list, forecasts, and projections. Confidential Information shall also include the terms of this Agreement. Notwithstanding the foregoing, Confidential Information shall not be deemed to include information that (1) is publicly available or in the public domain at the time disclosed, (2) is or becomes publicly available or enters the public domain through no fault of Buyer, or (3) is approved for release or disclosure by Forest Lighting without restriction.

(b) Confidentiality Obligations. During the Term of the Agreement and for a period of one year after the termination of this Agreement for any reason, Buyer agrees to maintain the confidentiality of Forest Lighting’s Confidential Information received by it. Buyer agrees not to disclose or use, directly or indirectly, except as permitted or required for performance by Buyer of its rights or duties hereunder, any Forest Lighting Confidential Information. Buyer further agrees to take appropriate measures, including the insertion of relevant clauses in employment and other contracts, to prevent any such prohibited disclosure by its present and future employees, officers, agents, subsidiaries, sub-Buyers or consultants in violation of this Section. Buyer shall be liable for all damages sustained by Forest Lighting for any breach of this Section.

(c) Injunctive Relief. Buyer acknowledges and agrees that irreparable harm would be suffered by Forest Lighting in the event of a breach of this Section and that Forest Lighting shall have the right to seek injunctive relief in the event of a breach or threatened breach of this Section. Buyer agrees that the rights of Forest Lighting provided in this Section shall be in addition to, and not in lieu of, all other rights Forest Lighting may have at law or in equity to protect the Confidential Information.

(d) No Vested Rights. Except as expressly provided herein, Buyer will not acquire any right, title or interest in the Trademarks or the Confidential Information by virtue of the execution or performance of this Agreement. It shall not at any time describe or represent itself to others as having such right, title or interest. Should any law or regulation in the Territory vest Buyer with any rights in the Trademarks or the Confidential Information except as expressly provided herein, Buyer hereby assigns and agrees to assign to Forest Lighting all such rights contemporaneously with their vesting. Buyer shall promptly notify Forest Lighting of any and all unauthorized use or disclosure of the Trademarks or the Confidential Information of which it becomes aware, and will assist Forest Lighting in taking action against any such unauthorized use or disclosure.

6. Representations and Warranties.

(a) Due Organization; Authority. Each party hereby represents and warrants to the other party that such party is duly organized under the laws of the jurisdiction in which it is organized, and that such party has the power and authority to enter into this Agreement and to perform its obligations hereunder. Each signatory of this Agreement has the authority to execute this Agreement on behalf of the party he or she represents.

(b) No Conflict. Each party represents and warrants to the other party that the execution and delivery of this Agreement and the performance of such party's obligations under this Agreement (a) do not and will not conflict with or violate any applicable laws or regulations existing as of the Effective Date and (b) do not and will not conflict with, violate, breach or constitute a default under any contractual obligations of such party existing as of the Effective Date.

(c) Enforceability. Each party represents and warrants to the other party that this Agreement is a legal and valid obligation binding upon it and is enforceable against it in accordance with its terms.

(d) Non-Infringement. Forest Lighting represents and warrants that it has the right to grant the Trademark License hereunder and that to its best knowledge, the Products do not infringe upon any intellectual property rights of any third party.

7. Indemnification.

(a) Indemnification by Buyer. Buyer shall indemnify, defend and hold harmless Forest Lighting and its officers, directors and employees from and against and in respect of any and all demands, claims, actions or causes of action, assessments, losses, damages, liabilities, interest and penalties, costs and expenses (including, without limitation, reasonable legal fees and disbursements incurred in connection therewith and in seeking indemnification) ("Losses") resulting from, arising out of, or imposed upon or incurred by any person to be indemnified hereunder by reason of (i) a breach of any representation, warranty or covenant of Buyer under this Agreement; or (ii) an act, omission, or negligence of Buyer in the performance of its obligations under this Agreement.

(b) Indemnification by Forest Lighting. Forest Lighting shall indemnify, defend and hold harmless Buyer and its officers, directors and employees from and against and in respect of any and all Losses resulting from, arising out of, or imposed upon or incurred by any person to be indemnified hereunder by reason of any breach of any representation, warranty of Forest Lighting under this Agreement or any act, omission or negligence of Forest Lighting in the performance of its obligations under this agreement.

(c) Notice and Defense of Indemnified Claims. In each case, the party receiving the indemnity (the "Indemnified Party") will notify the party providing the indemnity (the "Indemnifying Party") promptly of any claim against Indemnified Party to which any such indemnity may apply and, if Indemnifying Party chooses adequate counsel and makes adequate provision to compensate Indemnified Party in the event of an adverse result, Indemnified Party will allow Indemnifying Party to have control of the defense of any action relating thereto and negotiations for its settlement, provided Indemnified Party is allowed to participate at its own expense.

8. Limitation of Liability.

(a) FOREST LIGHTING'S LIABILITY IN RESPECT OF THE PRODUCTS IS LIMITED TO THAT SET FORTH IN THE WRITTEN WARRANTIES, IF ANY, ISSUED BY FOREST LIGHTING.

(b) THE PARTIES AGREE THAT NO PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, CONSEQUENTIAL, EXEMPLARY OR INCIDENTAL DAMAGES (INCLUDING LOSS OR ANTICIPATED LOSS OF REVENUES OR NET PROFITS RELATING TO THE SAME), ARISING FROM ANY CLAIM RELATING TO THIS AGREEMENT OR THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, TORT, (INCLUDING NEGLIGENCE) OR OTHERWISE, EVEN IF AN AUTHORIZED REPRESENTATIVE OF SUCH PARTY IS ADVISED OF THE POSSIBILITY OR LIKELIHOOD OF SAME.

9. Insurance

Forest Lighting provides and maintains liability and property damage insurance in connection with the Products and/or services which is the subject of this Agreement. Forest Lighting shall furnish to Buyer certificates issued by insurance companies acceptable to Buyer showing policies carried and the limits of coverage as follows:

(a) Workers' Compensation Insurance for Forest Lighting's employees to the extent of statutory limits and Occupational Disease and Employer's Liability Insurance for not less than \$1,000,000 each accident.

(b) Commercial General Liability Insurance, including but not limited to Products and Completed Operations and Blanket Contractual Liability, as applicable to Forest Lighting's obligations under this Agreement with limits not less than \$2,000,000 per occurrence and \$2,000,000 general aggregate. Coverage must be on an occurrence form. Limits may be satisfied with a combination of primary and excess coverage.

(c) Automobile Liability Insurance for all owned, non-owned and hired automobiles with limits not less than \$1,000,000 combined single limit.

(d) Excess/Umbrella Insurance in the amount of \$5,000,000.

Buyer shall be named as Additional Insured on all policies of insurance required in subsections (b) through (d), and a waiver of subrogation in favor of Buyer shall be provided.

10. Miscellaneous.

(a) Set Off. Forest Lighting reserves the right to set off any amounts Buyer owes to Forest Lighting against any amount Forest Lighting owes to Buyer. The existence of any claim by Buyer against Forest Lighting or any affiliates of Forest Lighting, whether predicated upon this Agreement or otherwise, shall not entitle Buyer to withhold or set-off any payments due to Forest Lighting under this Agreement. If any governmental agency prevents payment of any sum owed to Forest Lighting or performance of any other Buyer duty under this Agreement, Forest Lighting may immediately terminate this Agreement or, alternatively, be excused from further performance of its obligations under this Agreement.

(b) Complete Agreement. This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matters hereof and thereof and supersede all prior agreements whether written or oral relating hereto.

(c) Survival. The representations, warranties, covenant and agreements contained in Sections 5(c) and 6 through 11 shall remain in full force and effect during the Term of this Agreement and thereafter.

(d) Waiver, Discharge, Amendment, Etc. The failure of any party hereto to enforce at any time any of the provisions of this Agreement shall not, absent an express written waiver signed by the party making such waiver specifying the provision being waived, be construed to be a waiver of any such provision, nor in any way to affect the validity of this Agreement or any part thereof or the right of the party thereafter to enforce each and every such provision. No waiver of any breach of this Agreement shall be held to be a waiver of any other or subsequent breach. Any amendment to this Agreement shall be in writing and signed by both parties.

(f) Independent Contractor. The relationship of the parties is that of independent contractors. Nothing contained in this Agreement shall be deemed or construed to recreate an employer/employee, principal/agent, joint venture, partnership, or fiduciary relationship between the parties. Neither party has any authority, right or ability to bind or commit the other party in any way, express or implied, and will not attempt to do so or imply that it may do so, except as expressly authorized in writing by the other party.

(g) Governing Law; Jurisdiction. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas, without giving any effect to any conflict of laws principles. Buyer irrevocably agrees and consents to the exercise of jurisdiction over it by the courts of the State of Texas. All legal actions relating to this Agreement shall be filed in one of such courts. Service of process provided to Buyer in accordance with Section 10(e) above shall be effective and sufficient to establish jurisdiction and venue in such court in any such action.

(h) Titles and Headings; Construction. The titles and headings to the Sections herein are inserted for the convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement. This Agreement shall be construed without regard to any presumption or other rule requiring construction hereof against the party causing this Agreement to be drafted. As used herein, "business day" shall mean any day on which the banks in Atlanta, Georgia, are open for business.

(i) Assignment. The parties hereto agree and acknowledge that the obligations herein are personal in nature and may not be assigned, transferred, or conveyed by any of the parties hereto to any third party without the prior written consent of the other party.

(j) Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed as original and all of which together shall constitute one instrument.

(k) Severability. If any provision of this Agreement is held invalid by a court of competent jurisdiction, the remaining provisions shall nonetheless be enforceable according to their terms. Further, if any provision is held to be over broad as written, such provision shall be deemed amended to narrow its application to the extent necessary to make the provision enforceable according to applicable law and shall be enforced as amended.

(l) Force Majeure. Upon giving notice to the other party, a party affected by an event of Force Majeure shall be released without any liability on its part from the performance of its obligations under this Agreement, except for the obligation to pay any amounts due and owing hereunder, but only to the extent and only for the period that its performance of such obligations is prevented by the event of Force Majeure. During the period that the performance by one of the parties of its obligations under this Agreement has been suspended by reason of an event of Force Majeure, the other party may likewise suspend the performance of all or part of its obligations hereunder (except for the obligation to pay any amounts due and owing hereunder) to the extent that such suspension is commercially reasonable. As used herein, “Force Majeure” means any event or condition, not existing as of the Effective Date, not reasonably foreseeable as of such date and not reasonably within the control of a party, which prevents in whole or in material part the performance by one of the parties of its obligations hereunder, such as an act of government, war or related actions, civil insurrection, riot, sabotage, strike, epidemic, fire, flood, windstorm, shortage of raw materials, and similar events.