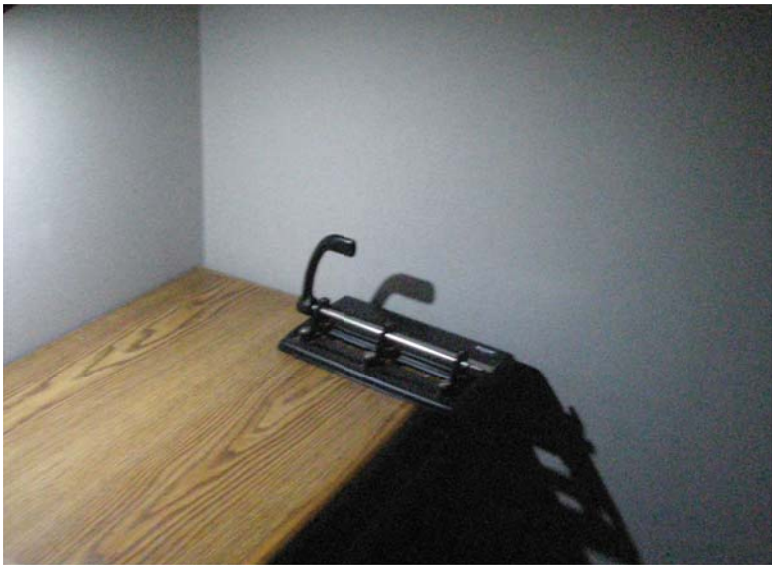
LED LIGHT ENGINE MODULE

8-30VDC/AC Regulated



LHA-06B30-N-00 (8-30V)
Ultra Bright

LHA-06B30-B-00 (8-30V)
No Heatsink Required

LHA-06B30-G-00 (8-30V)
Modular Connectivity

LHA-06B30-R-00 (8-30V)
Built-in LED Driver

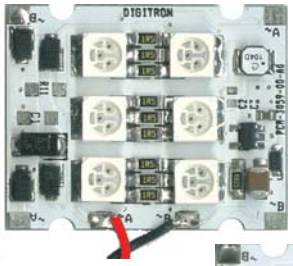
ACTUAL PICTURES
NOT SIMULATED

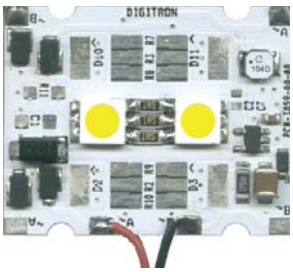
Digitron Displays 9619 W Yulee Drive Homosassa, FL 34448
WWW.DIGITRONDISPLAYS.COM

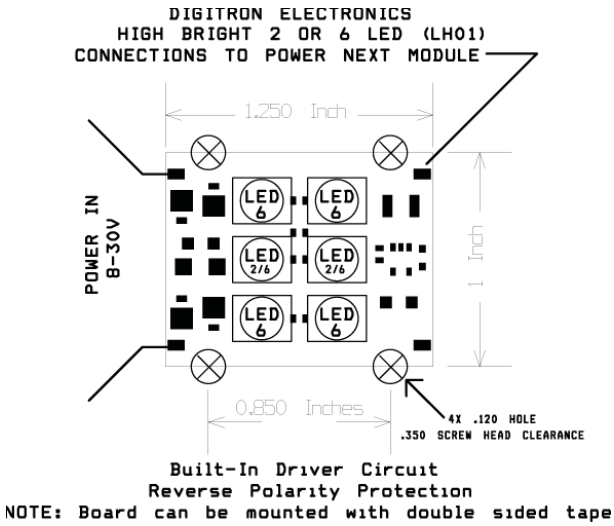
LED LIGHT ENGINE / MODULE

DESCRIPTION

- 2 or 6 Ultra Brite 5050 LED's
- Colors: White, Green, Red, Blue
- Built-in LED Drivers, 8-30VDC/AC input
- No Heat Sink Required
- Linkablility up to 30 modules
- Can be mounted with double sided tape



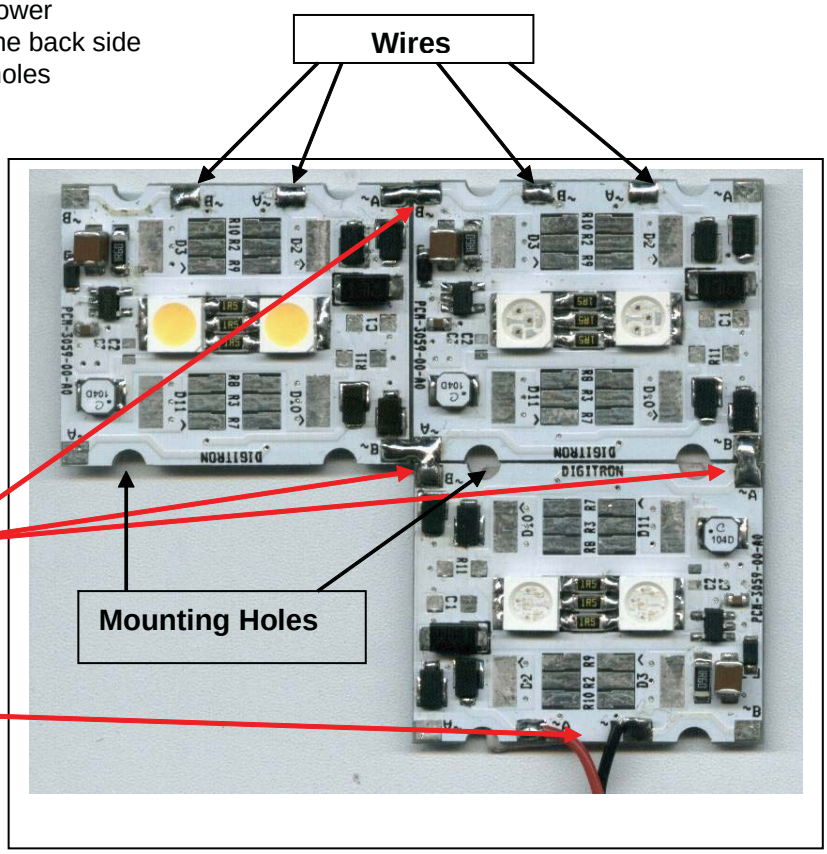




Part Number	LEDs	Power @12VDC	Input Voltage	Color Temp Wavelength	Viewing Angle	Lumen	Power (Watts)
LHA-02B30-N-00	2	40ma	8-30	White	120	29	.5W
LHA-02B30-G-00	2	40ma	8-30	525nm	120	22	.5W
LHA-02B30-R-00	2	32ma	8-30	624nm	120	10	.4W
LHA-02B30-B-00	2	40ma	8-30	465nm	120	6	.5W
LHA-06B30-N-00	6	74mA	8-30	White	120	87	.9W
LHA-06B30-G-00	6	76mA	8-30	525nm	120	65	.9W
LHA-06B30-R-00	6	59mA	8-30	624nm	120	29	.7W
LHA-06B30-B-00	6	75mA	8-30	475nm	120	17	.9W

Mounting Info:
Insulate back of board from ground.
Use double sided tape or screw downvia mounting holes.

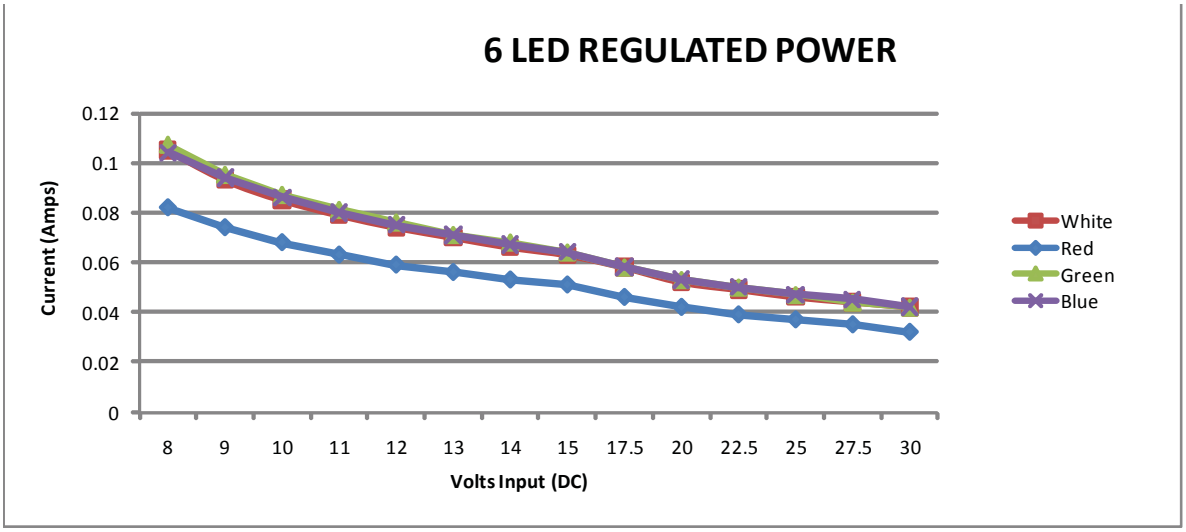
Interconnecting Modules:
- Layout desired placement
- Solder adjoining pads
- Only one set of wires is required for power
- After this is done be sure to insulate the back side
- Mount where desired utilizing mount holes



Note:
This Example has three together and soldered in three places

WARNING:
DO NOT SHORT REAR OF PCB TO GROUND.
UNITS CAN GET WARM, UP TO 75C.

WARNING: MULTIPLE MODULES MUST BE POWER IN PARALLEL.
DO NOT CONNECT VIA SERIAL CONNECTION

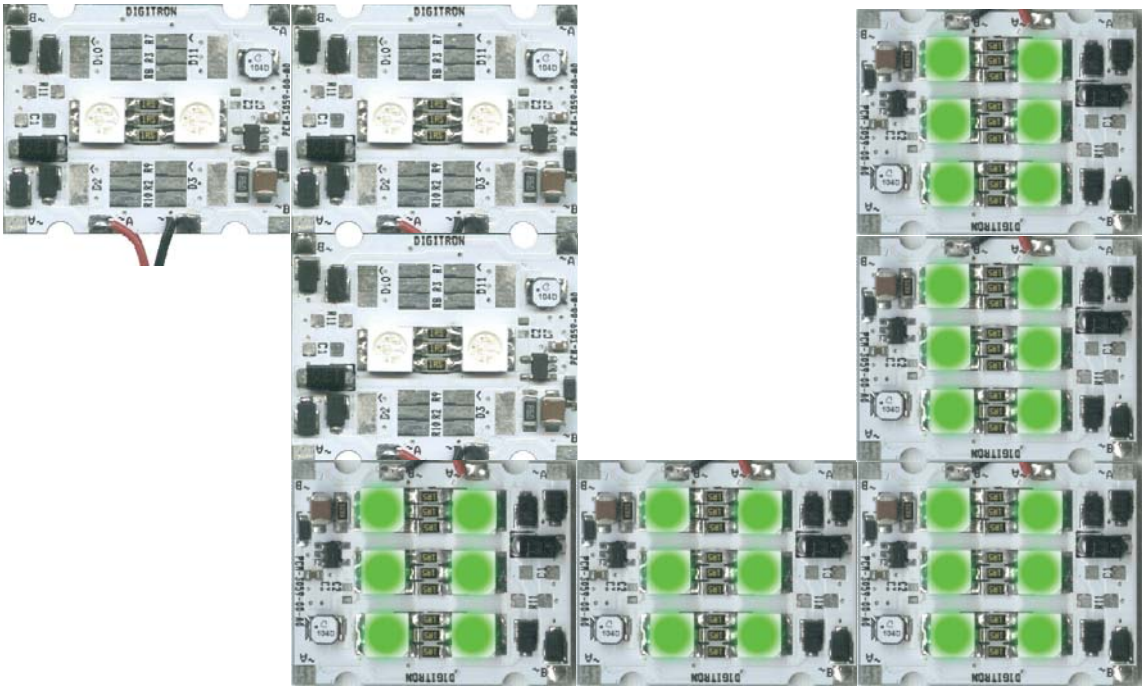


Volts	8	9	10	11	12	13	14	15	17.5	20	22.5	25	27.5	30	
6 LED White	0.105	0.093	0.085	0.079	0.074	0.07	0.066	0.063	0.058	0.052	0.049	0.046	0.044	0.042	ma
6 LED Red	0.082	0.074	0.068	0.063	0.059	0.056	0.053	0.051	0.046	0.042	0.039	0.037	0.035	0.032	ma
6 LED Green	0.107	0.095	0.087	0.081	0.076	0.071	0.068	0.064	0.058	0.053	0.05	0.047	0.044	0.042	ma
6 LED Blue	0.104	0.094	0.086	0.08	0.075	0.071	0.067	0.064	0.058	0.053	0.05	0.047	0.045	0.042	ma

POWER SUPPLY REQUIREMENTS

The easiest way to determine what the best power supply would be to drive your LED design is to add the Power (W) together for all modules and then choose a appropriate power supply by calculating the voltage and required amperage of the supply.

This is an example of what the power supply requirements for the below configuration would be.



If you had quantity 3 of the: LHA-02B30-N-00 each taking .5W (3 x .5W = 1.5W)

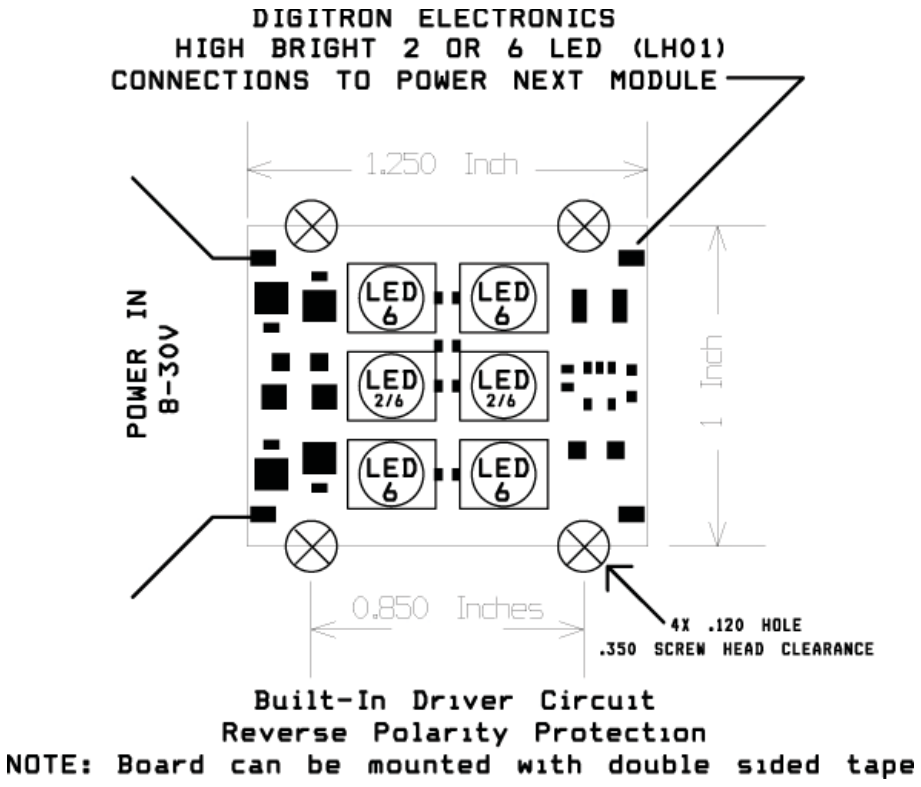
and 5 of the: LHA-06B30-G-00 each taking .9W (5 x .9W = 4.5W)

you would have a totoal of 6W of power need to drive all modules.

If you had a power supply that is a 9VDC it would have to have (6W / 9VDC) = .667 A or 667 ma of current
A safe power supply would be 9VDC at 750ma or more.

If you had a power supply that is 24VDC it would have to have 6W / 24VDC) = .25 A or 250 ma of current

LED MODULE DIMENSIONS



LED SPECIFICATIONS

WHITE

CIE 1931 Coordinate	X/Y	W1	---	X:0.29 Y:0.29	---	nm	IF=20mA/dice
		W2	---	X:0.29 Y:0.29	---		
		W3	---	X:0.29 Y:0.29	---		

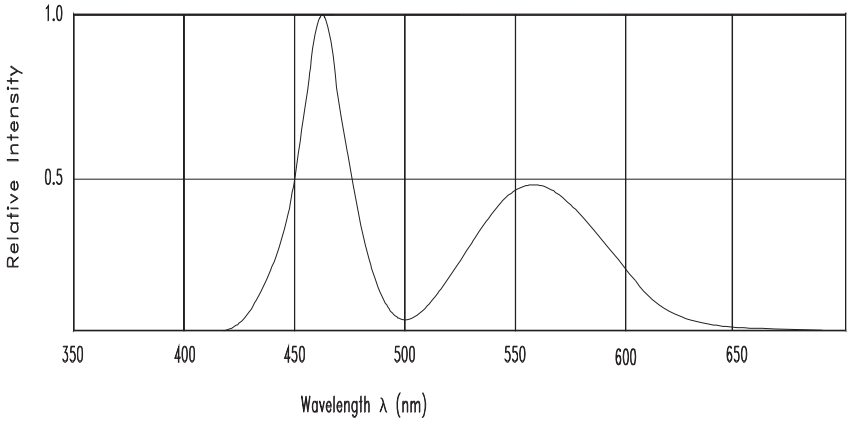


Fig.1 Relative Intensity vs. Wavelength

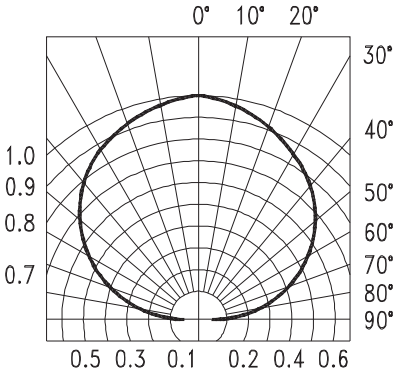


Fig.6 Spatial Distribution

RED

Dominant Wavelength	λd	R1	---	624	---	nm	IF=20mA
		R2	---	624	---		
		R3	---	624	---		
Peak Wavelength	λp	R1	---	630	---	nm	IF=20mA
		R2	---	630	---		
		R3	---	630	---		
Spectral Line Half-Width	Δλ	R1	---	20	---	nm	IF=20mA
		R2	---	20	---		
		R3	---	20	---		

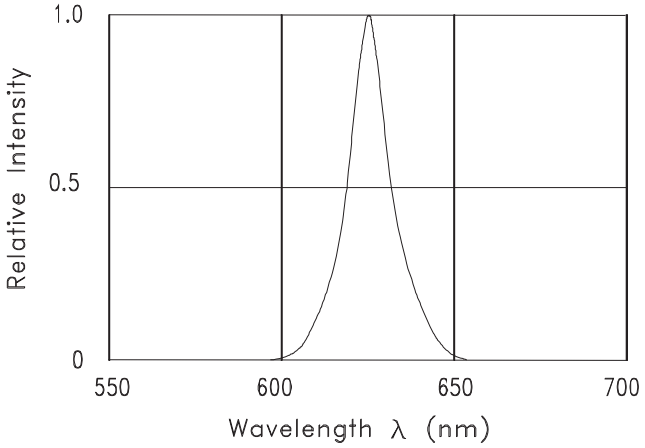


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

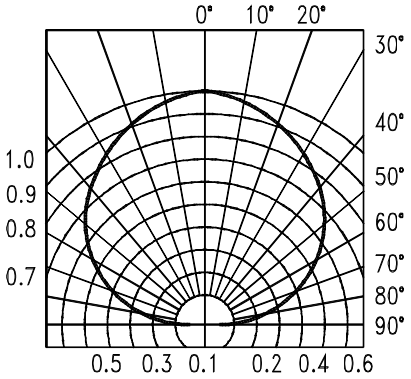


Fig.6 SPATIAL DISTRIBUTION

GREEN

Dominant Wavelength	λd	G1	---	525	---	nm	IF=20mA
		G2	---	525	---		
		G3	---	525	---		
Peak Wavelength	λp	G1	---	530	---	nm	IF=20mA
		G2	---	530	---		
		G3	---	530	---		
Spectral Line Half-Width	Δλ	G1	---	35	---	nm	IF=20mA
		G2	---	35	---		
		G3	---	35	---		

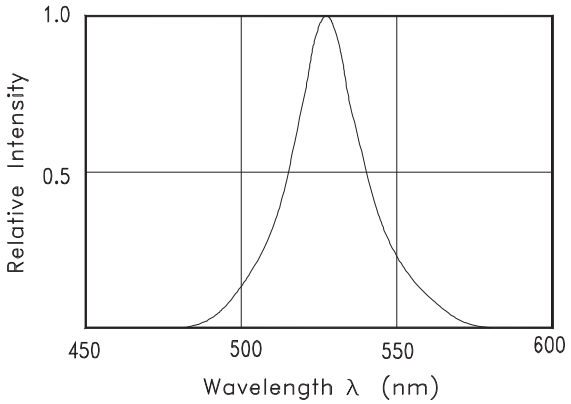


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

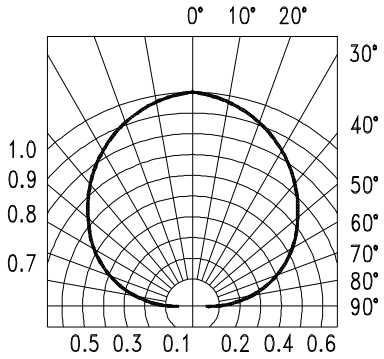
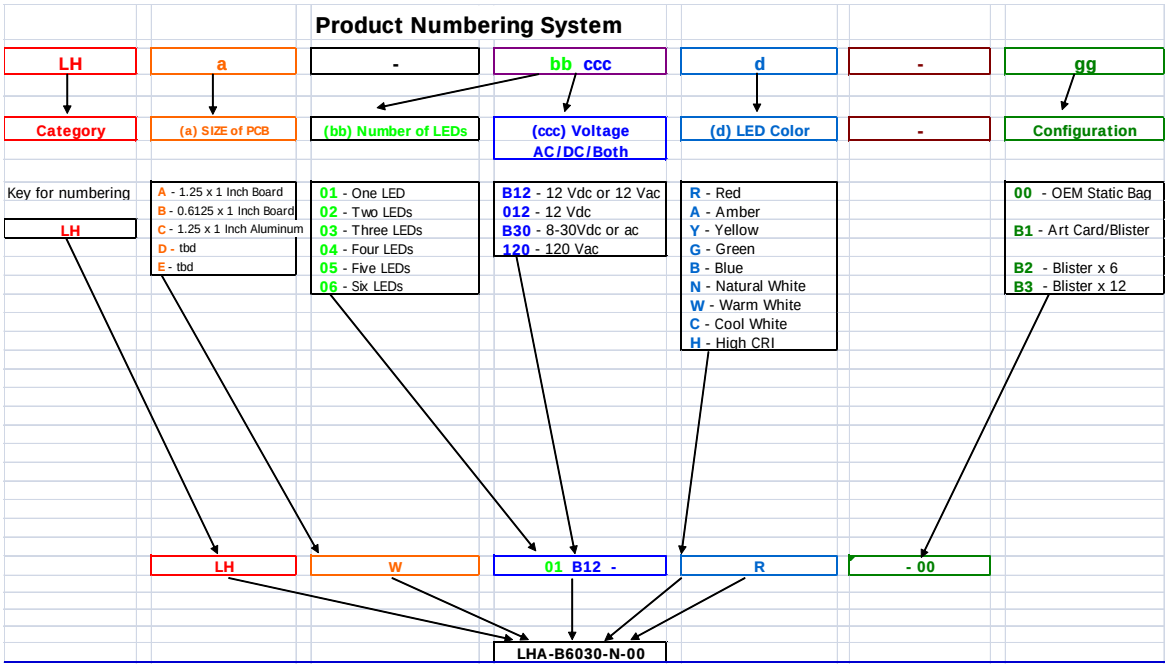


Fig.6 Spatial Distribution

Notes: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

2. θ1/2 is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

3. The dominant wavelength, λd is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.


Product Numbering System
LH
a
-
bb ccc
d
-
gg
Category
(a) SIZE of PCB
(bb) Number of LEDs
(ccc) Voltage AC/DC/Both
(d) LED Color
-
Configuration
Key for numbering
LH
A - 1.25 x 1 Inch Board
B - 0.6125 x 1 Inch Board
C - 1.25 x 1 Inch Aluminum
D - tbd
E - tbd
01 - One LED
02 - Two LEDs
03 - Three LEDs
04 - Four LEDs
05 - Five LEDs
06 - Six LEDs
B12 - 12 Vdc or 12 Vac
012 - 12 Vdc
B30 - 8-30Vdc or ac
120 - 120 Vac
R - Red
A - Amber
Y - Yellow
G - Green
B - Blue
N - Natural White
W - Warm White
C - Cool White
H - High CRI
00 - OEM Static Bag
B1 - Art Card/Blister
B2 - Blister x 6
B3 - Blister x 12
LH
W
01 B12 -
R
- 00
LHA-B6030-N-00