

## PRODUCT DESCRIPTION

### CIRCAMAN - AR111



Human Centric Lighting is now available for thoughtful retail, hospitality and care applications such as restaurant, shops, showrooms, homes, and museums.

Our lamps give uniquely superior light with different whites and brightness levels synchronized with the natural circadian rhythms. The Human Centric Circadian Light aligns automatically and can improve well-being, comfort, satisfaction and life quality.

Smooth transition color tuning technology ensure color and brightness changes are subtle and not noticeable. The lamps are designed with high lumen maintenance and excellent color consistency.

### FEATURES

- Circadian Rhythm of Light 2800K - 5700K during different time
- Dual Colours - Single Point source LED
- Available in 18.5W/13.5W/8.5W for 75W/50W/35W halogen equivalent
- Tunable White with Narrow Beam Angle
- AC/DC 12V input
- Enclosed fixture compatibility
- Thermal protection – Auto dim-down
- Available multi-beam angle selection 10°/15°/24°/38°/10°x60°/30°x60°
- Selectable CCT - 2800K/3000K/3500K/4000K/4500K/5000K/5700K
- Dimmable to 5%
- Android Apps or Optional 2.4GHz Wireless Remote Control
- 72mm filter accessories available

### APPLICATIONS

- Display: Galleries, museums, exhibitions, windows display
- Hotel: Lobby, corridors, stairwells, or wellbeing room, restroom
- Office: Reception area, meeting room, corridors, restroom
- Residential: Accent lighting
- Restaurant: Bars, cafés, fast food, fine-dinning
- Retail: Fashion boutique, cosmetics, jewellery, fresh food, concept stores, supermarket, florist shop
- Speciality: Aquarium, houseplant growing

### BENEFITS

- Increased alertness in the morning
- Productivity and concentration improvements
- Improved mood
- Reduced hyperactivity
- Reduction in errors and accidents
- Faster cognitive processing
- Improved sleep
- Increased customer satisfactory and well-being
- Provide natural atmosphere.
- Boost customer dwell time
- Boost sales, especially natural products, such as food, flowers and etc.
- Reduced the absence of staffs

### GENERAL SPECIFICATIONS

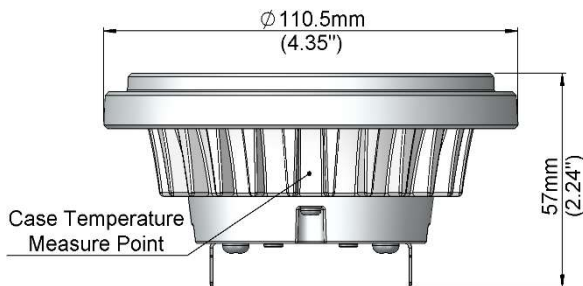
Gap Base	G53	Dimension	Ø111mm x 57mm Height
Working Voltage	12V AC/DC	Weight	280g
Halogen Equivalent	75W - 100W	Lifetime	35000 hrs – 50000 hrs (nom.)
Power	18.5W	Switching	50000x
Frequency	50/60Hz (12VAC)	Operation Temp.	70°C (nom.) to 80°C @ Case Temperature
EU RoHS compliant	YES	Max. operation temp.	90°C @ Case Temperature

### PRODUCT INFORMATION

Colour temp.	2800K – 5700K		
CRI	90 (Typ.)	CRI 80 and 95 on request	
Color Consistency	3 Steps MacAdam @2800K and @5700K		
Selectable CCT:	2800K / 3000K / 3500K / 4000K / 4500K / 5000K / 5700K		
Brightness Setting:	100% / 75% / 50% / 25% / 10% / 5%		
Beam Angle	10° / 15° / 24° / 38° / 10° x 60° / 30° x 60°		
Mode:	A-Mode (Auto - CCT-brightness changing – Constant power) C-Mode (Circadian Rhythm - CCT-brightness changing for HCL)		

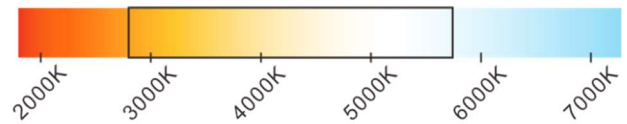
\*CCT selection and Dimming functions by remote control or Apps

### DIMENSIONS



### CCT RANGE

2800K – 5700K



### ORDERING INFORMATION

Example Model: AR111-18-15D-928-957-01

AR111	- 18	- 15D	- 928 - 957	- 01	-
Product and Lamp Base	Wattage	Beam Angle	Min. CCT – Max. CCT	Version	Voltage (optional)
AR111	18 (Typ. 18.5W)	10D	928 – 957	01	For AR111GU10 only
For AR111-G53 (12V AC/DC)	13 (Typ. 13.5W)	(For 10°)	2800K – 5700K@90 CRI *(CRI 80 / 95 on request)	Gen.1	TBC
AR111GU		15D	918 – 965		
For AR111-GU10 (AC 100 ~ 240V) (coming soon)		(For 15°)	1800K – 6500K@90 CRI (coming soon)		
		24D			
		(For 24°)			
		1060D			
		(For 10°x60°)			
		3060D			
		(For 30°x60°)			

### SPECIFICATIONS BY MODEL NUMBER - CRI 90+ 18.5W CCT 2800K - 5700K

Model Number	Halogen Equivalent	Watts	Beam Angle	Field Angle	Lumen Output	Peak Intensity	Efficacy
AR111-18-10D-928-957-01	75-100W	18.5W	10°	22°	1060 lm	9667cd	57 lm/W
AR111-18-15D-928-957-01	75-100W	18.5W	15°	38°	920 lm	4096cd	50 lm/W
AR111-18-24D-928-957-01	75-100W	18.5W	24°	53°	960 lm	2737cd	52 lm/W
AR111-18-38D-928-957-01	75-100W	18.5W	38°	100°	970 lm	1177cd	52 lm/W
AR111-18-1060D-928-957-01	75-100W	18.5W	10°x 60°	50° x 90°	1020 lm	2128 cd	55 lm/W
AR111-18-3060D-928-957-01	75-100W	18.5W	30°x 60°	92° x 112°	920 lm	975 cd	50 lm/W

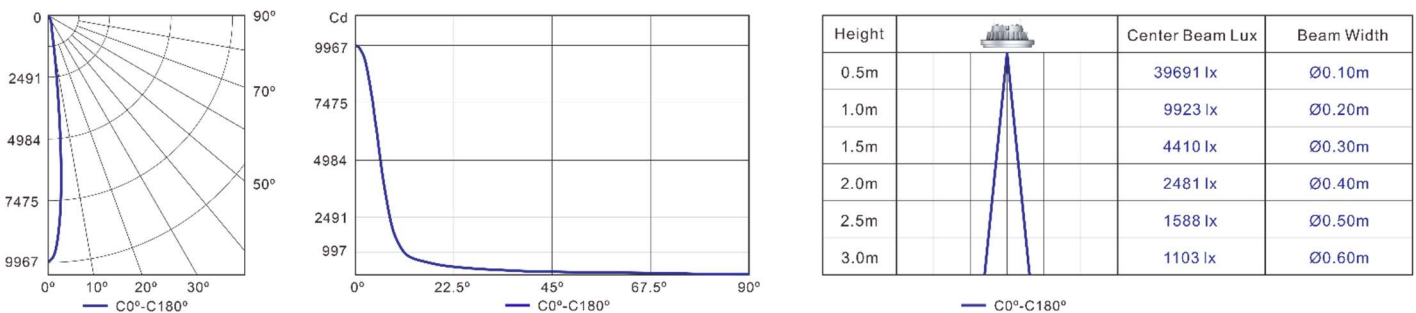
Specifications are at 25°C ambient testing temperature, CCT=3000K, 100% Brightness.

### LUMEN OUTPUT / (CBCP) CHART at 100% BRIGHTNESS

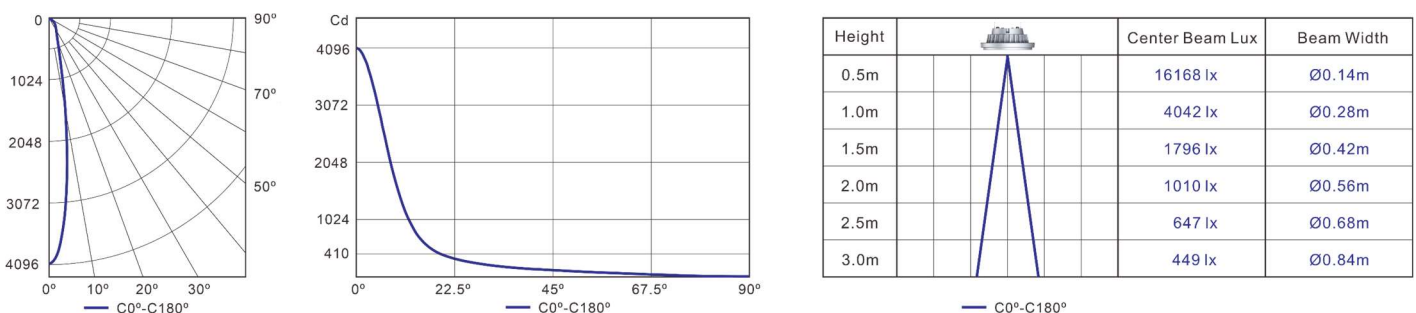
Beam Angle	2800K	3000K	3500K	4000K	4500K	5000K	5700K
10°	1052 lm (9890 cd)	1060 lm (9967 cd)	1113 lm (10465 cd)	1155 lm (10864 cd)	1187 lm (11163 cd)	1208 lm (11362 cd)	1233 lm (11561 cd)
15°	913 lm (4064 cd)	920 lm (4096 cd)	962 lm (4284 cd)	1005 lm (4473 cd)	1026 lm (4569 cd)	1048 lm (4665 cd)	1070 lm (4763 cd)
24°	953 lm (2716 cd)	960 lm (2737 cd)	1004 lm (2863 cd)	1048 lm (2989 cd)	1071 lm (3053 cd)	1094 lm (3118 cd)	1116 lm (3183 cd)
38°	962 lm (1168 cd)	970 lm (1177 cd)	1015 lm (1231 cd)	1059 lm (1286 cd)	1082 lm (1313 cd)	1105 lm (1341 cd)	1128 lm (1369 cd)
10° x 60°	1012 lm (2111 cd)	1020 lm (2128 cd)	1067 lm (2226 cd)	1114 lm (2324 cd)	1138 lm (2374 cd)	1162 lm (2424 cd)	1186 lm (2475 cd)
30° x 60°	913 lm (967 cd)	920 lm (975 cd)	962 lm (1019 cd)	1005 lm (1064 cd)	1026 lm (1087 cd)	1048 lm (1110 cd)	1070 lm (1133 cd)
Multiplier factor	0.99	1	1.05	1.09	1.12	1.14	1.16

### PHOTOMETRY

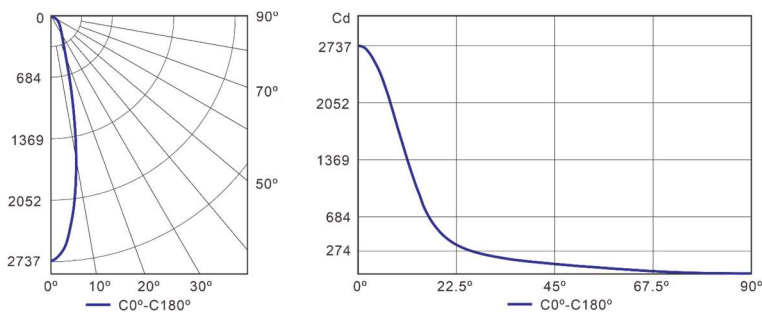
#### AR111-18-10D-928-957 @3000K - 100% Brightness



#### AR111-18-15D-928-957 @3000K - 100% Brightness

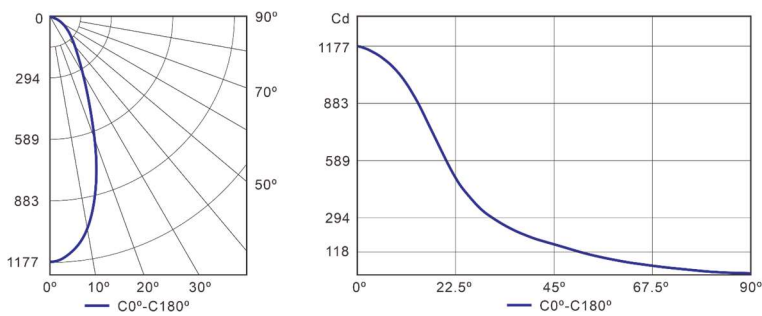


### AR111-18-24D-928-957 @3000K - 100% Brightness



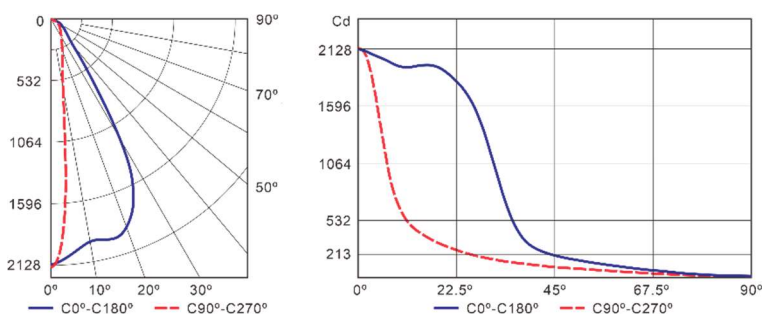
Height	Center Beam Lux	Beam Width
0.5m	10940 lx	Ø0.20m
1.0m	2735 lx	Ø0.40m
1.5m	1215 lx	Ø0.60m
2.0m	684 lx	Ø0.80m
2.5m	438 lx	Ø1.00m
3.0m	304 lx	Ø1.20m

### AR111-18-38D-928-957 @3000K - 100% Brightness



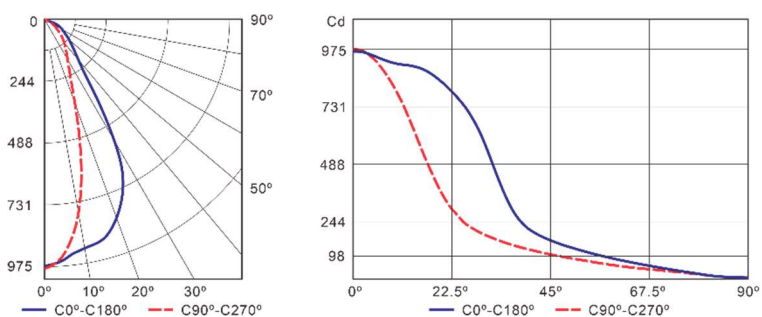
Height	Center Beam Lux	Beam Width
0.5m	4682 lx	Ø0.38m
1.0m	1171 lx	Ø0.75m
1.5m	520 lx	Ø1.13m
2.0m	293 lx	Ø1.50m
2.5m	187 lx	Ø1.88m
3.0m	130 lx	Ø2.26m

### AR111-18-1060D-928-957 @3000K - 100% Brightness



Height	Center Beam Lux	Beam Width
0.5m	8459 lx	0.60m 0.11m
1.0m	2115 lx	1.20m 0.22m
1.5m	940 lx	1.79m 0.33m
2.0m	529 lx	2.39m 0.45m
2.5m	338 lx	2.99m 0.56m
3.0m	225 lx	3.59m 0.67m

### AR111-18-3060D-928-957 @3000K - 100% Brightness

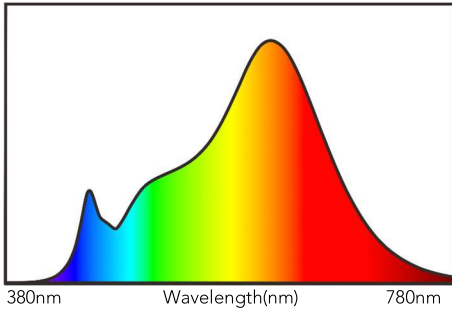


Height	Center Beam Lux	Beam Width
0.5m	3866 lx	0.61m 0.30m
1.0m	966 lx	1.23m 0.60m
1.5m	430 lx	1.84m 0.91m
2.0m	242 lx	2.46m 1.21m
2.5m	155 lx	2.07m 1.51m
3.0m	107 lx	3.69m 1.81m

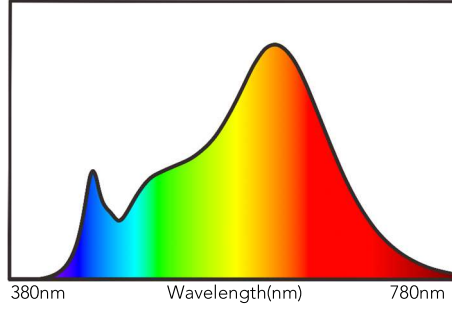
Tested at 25°C ambient testing temperature, CCT=3000K, 100% Brightness

**SPECTRAL POWER DISTRIBUTION**

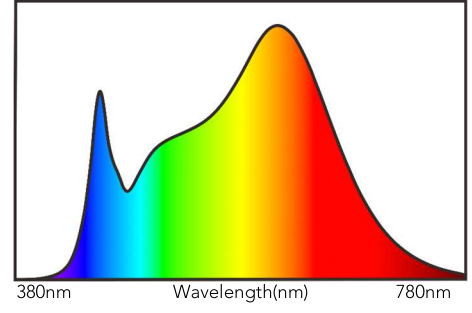
**2800K**



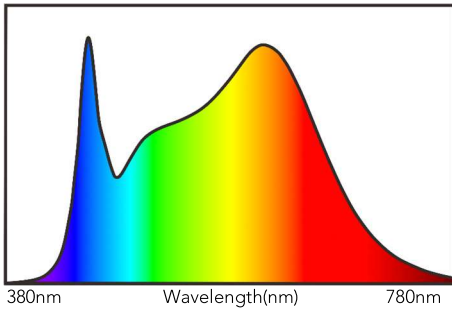
**3000K**



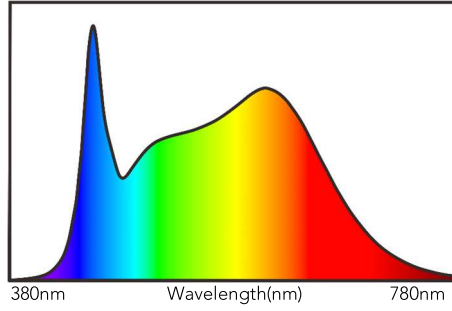
**3500K**



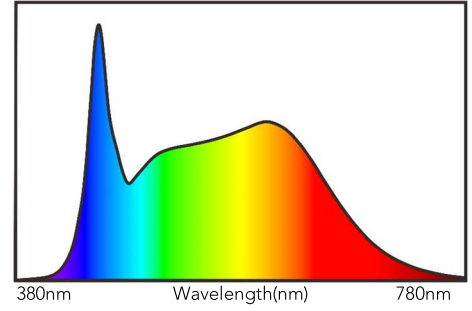
**4000K**



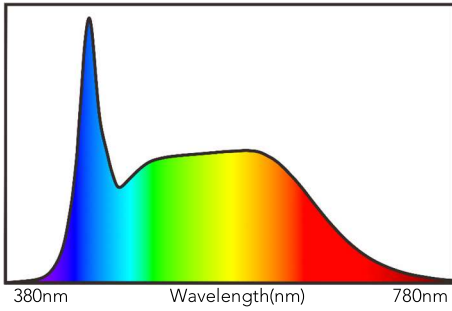
**4500K**



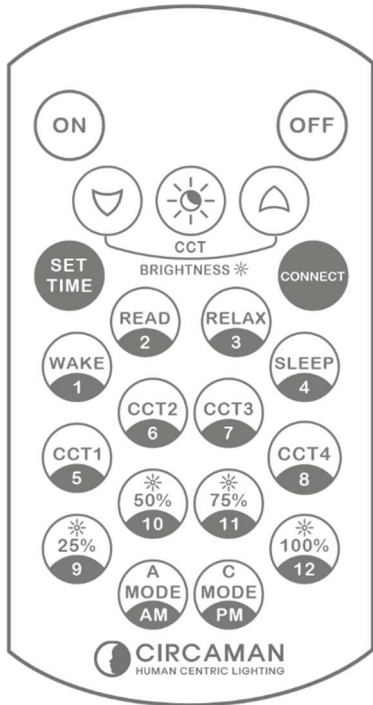
**5000K**



**5700K**



**REMOTE CONTROL FUNCTIONS**



CONNECT – Set connection for remote control and lamp(s).



SET TIME – Set time into the lamp(s).



ON / OFF



BRIGHTNESS – 5% / 10% / 25% / 50% / 75% / 100%



CCT SETTING – 2800K / 3000K / 3500K / 4000K / 5000K / 5700K



WAKE = 5700K - 100%    READ = 3500K - 75%  
RELAX = 2800K - 75%    SLEEP = 2800 - 50% > 30mins off



PRESET CCT BUTTONS

CCT1 = 2800K    CCT2 = 3000K    CCT 3 = 4000K    CCT 4 = 5000K



PRESET BRIGHTNESS BUTTONS

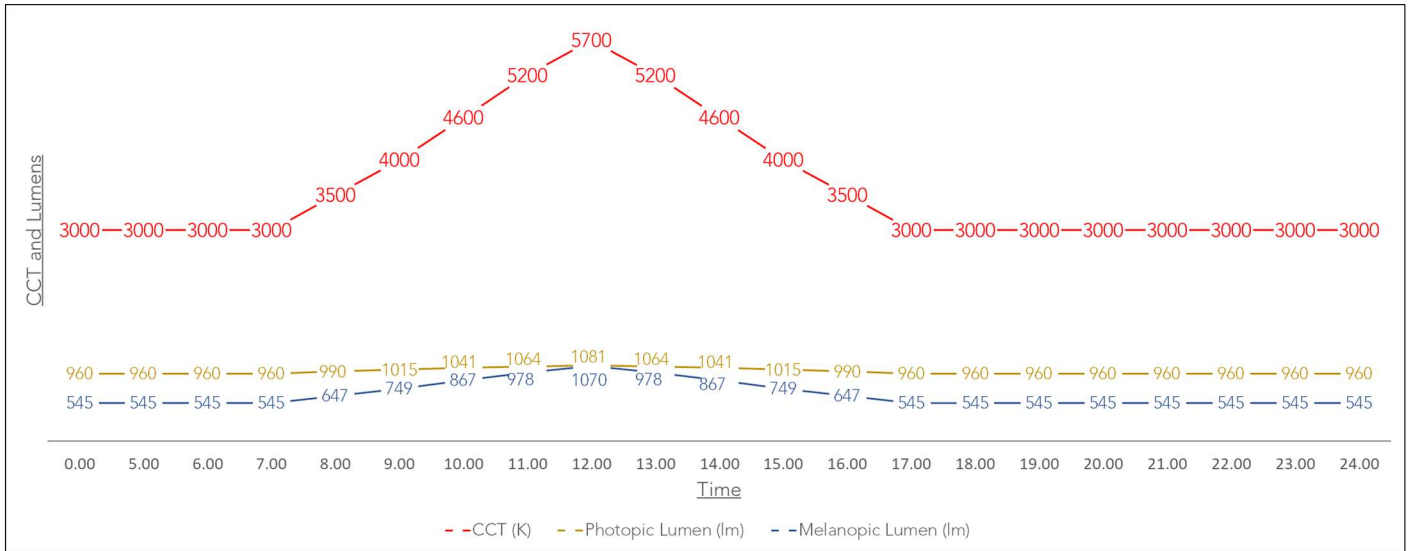


PRESET MODE

A-MODE / C-MODE

### A-MODE - AUTO CCT AND BRIGHTNESS CHANGING

(For Non-Dimmable Electronic Transformer and Magnetic Transformer, DC Transformer use)

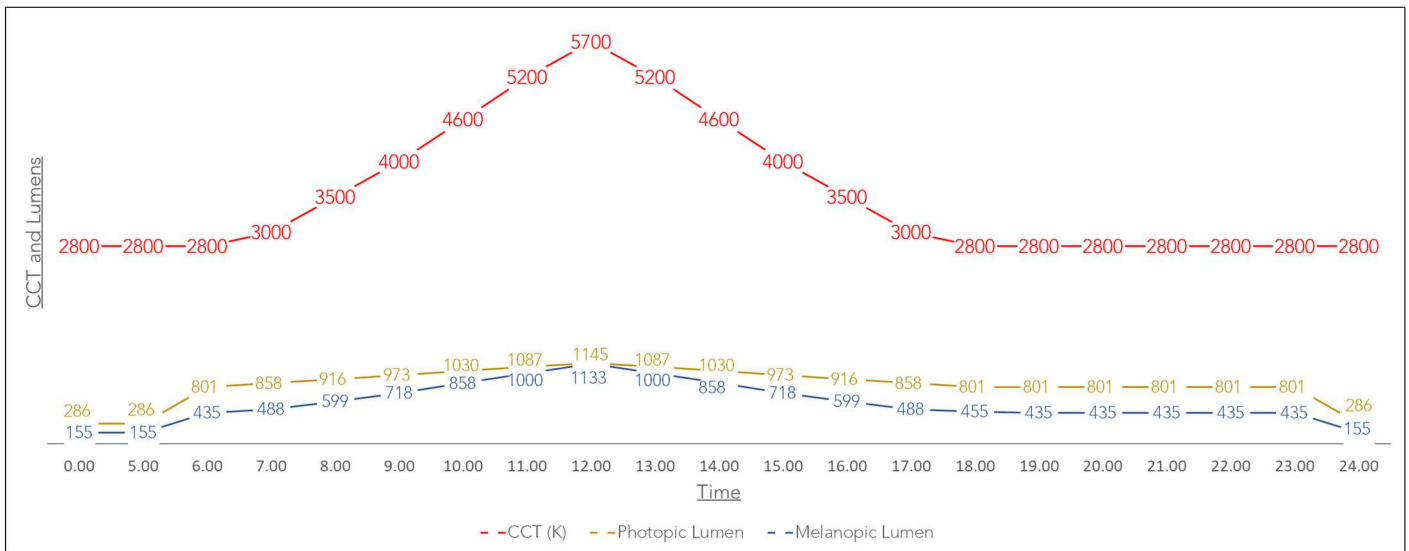


Time	0.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00
CCT (K)	3000	3000	3000	3000	3500	4000	4600	5200	5700	5200	4600	4000	3500	3000	3000	3000	3000	3000	3000	3000	3000
Photopic Lumen (lm)	960	960	960	960	990	1015	1041	1064	1081	1064	1041	1015	990	960	960	960	960	960	960	960	960
Melanopic Lumen (lm)	545	545	545	545	647	749	867	978	1070	978	867	749	647	545	545	545	545	545	545	545	545
Melanopic Ratio	0.568	0.568	0.568	0.568	0.654	0.738	0.833	0.92	0.99	0.92	0.833	0.738	0.654	0.568	0.568	0.568	0.568	0.568	0.568	0.568	0.568
Average Photopic Lumen	960			970			1023						960			960					
Average Melanopic Lumen	545			579			800						545			545					
Lamp Power	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5

\*AR111-18-24D-928-957-01 at A-MODE

### C-MODE - CIRCADIAN RHYTHM - CCT-BRIGHTNESS CHANGING FOR HCL

(For Dimmable Electronic Transformer (Min. Load > 5W), Magnetic Transformer, DC Transformer use only)

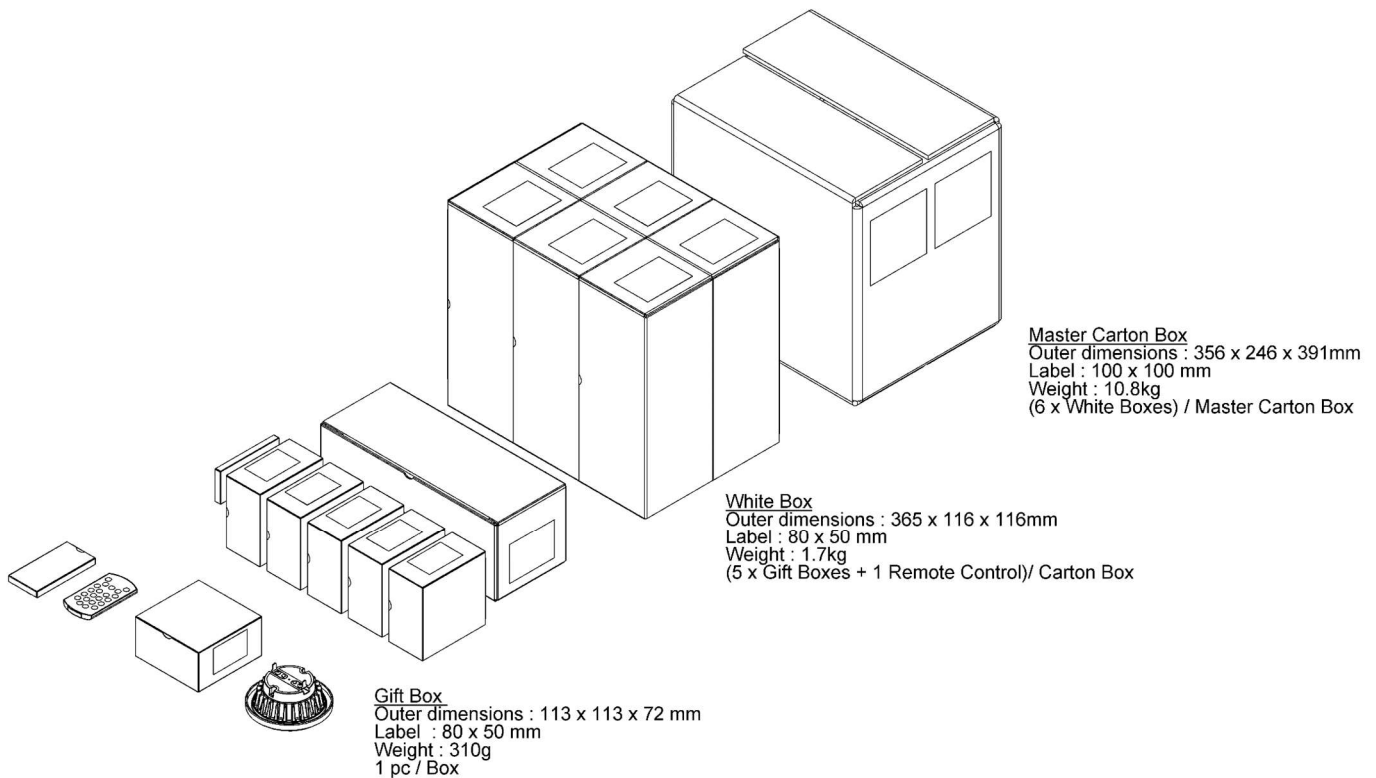


Time	0.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00
CCT (K)	2800	2800	2800	3000	3500	4000	4600	5200	5700	5200	4600	4000	3500	3000	2800	2800	2800	2800	2800	2800	2800
Photopic Lumen	270	270	757	811	865	919	973	1027	1081	1027	973	919	865	811	757	757	757	757	757	757	270
Melanopic Lumen	147	147	411	460	565	678	810	945	1070	945	810	678	565	460	430	411	411	411	411	411	147
Melanopic Ratio	0.543	0.543	0.543	0.568	0.654	0.738	0.833	0.92	0.99	0.92	0.833	0.738	0.654	0.568	0.568	0.543	0.543	0.543	0.543	0.543	0.543
Average Photopic Lumen	270			811			935						757			513					
Average Melanopic Lumen	147			479			739						411			279					
Lamp Power	5.3	5.3	14.6	15.6	16.1	16.7	17.3	17.8	18.5	17.8	17.3	16.7	16.1	15.6	14.8	14.8	14.8	14.8	14.8	14.8	14.8

\*AR111-18-24D-928-957-01 at C-MODE

**PACKING INFORMATION**

Model Number	Gift Box EAN-13 / UPC	Number of Gift Boxes / Carton Box	White Box EAN-13 / UPC	Number of White Boxes / Master Carton Box	Master Carton Box EAN-14
AR111-18-10D-928-957-01	4 898506 787312	5	4 898506 787329	6	1 48 98506 78732 6
AR111-18-15D-928-957-01	4 898506 787336	5	4 898506 787343	6	1 48 98506 78734 0
AR111-18-24D-928-957-01	4 898506 787350	5	4 898506 787367	6	1 48 98506 78736 4
AR111-18-38D-928-957-01	4 898506 787374	5	4 898506 787381	6	1 48 98506 78738 8
AR111-18-1060D-928-957-01	4 898506 787398	5	4 898506 787404	6	1 48 98506 78740 1
AR111-18-3060D-928-957-01	4 898506 787411	5	4 898506 787428	6	1 48 98506 78742 5
Remote Control	4 898506 787305				


**Circadian Lighting Limited**

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