

PRODUCT DESCRIPTION

CIRCAMAN – MR16



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 6.8W for 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

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

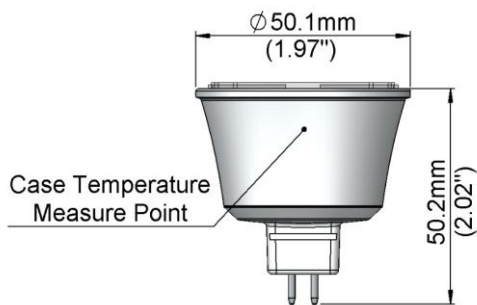
Gap Base	GU5.3	Dimension	Ø50.1mm x 57mm Height
Working Voltage	12V AC/DC	Weight	60g
Halogen Equivalent	35W - 50W	Lifetime	35000 hrs – 50000 hrs (nom.)
Power	6.8W	Switching	50000x
Frequency	50/60Hz (12VAC)	Operation Temp.	70°C (nom.) to 80°C @ Case Temperature
EU RoHS compliant	YES	Max. operation temp.	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)	

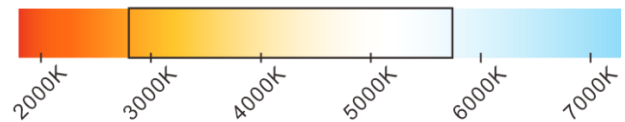
*CCT selection and Dimming functions by remote control or Apps

DIMENSIONS



CCT RANGE

2800K – 5700K



ORDERING INFORMATION

Example Model: MR16-07-15D-928-957-01

MR16 - 07 - 15D - 928 - 957 - 01 -

Product and Lamp Base	Wattage	Beam Angle	Min. CCT – Max. CCT	Version	Voltage (optional)
MR16 For MR16-GU5.3 (12V AC/DC)	07 (Typ. 6.8W)	10D (For 10°)	928 – 957 2800K – 5700K@90 CRI *(CRI 80 / 95 on request)	01 Gen.1	For MR16GU10 only TBC
MR111GU For MR16-GU10 (AC 100 ~ 240V) (coming soon)		15D (For 15°)			
		24D (For 24°)			
		1060D (For 10°x60°)			
		3060D (For 30°x60°)			

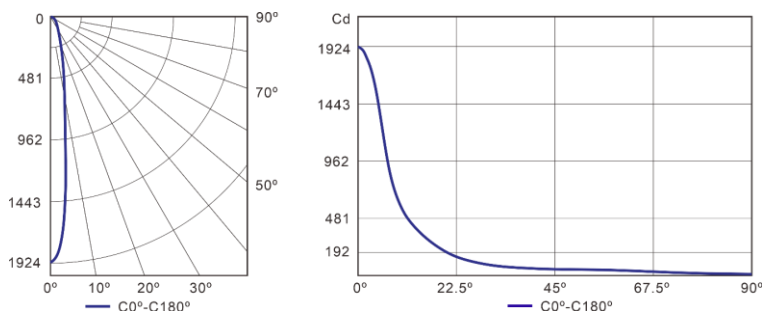
SPECIFICATIONS BY MODEL NUMBER - CRI 90+ 6.8W CCT 2800K - 5700K

Model Number	Halogen Equivalent	Watts	Beam Angle	Field Angle	Lumen Output	Peak Intensity	Efficacy
MR16-07-10D-928-957-01	35-50W	6.8W	10°	36°	390 lm	1924 cd	57.4 lm/W
MR16-07-15D-928-957-01	35-50W	6.8W	15°	38°	370 lm	1028 cd	54.4 lm/W
MR16-07-24D-928-957-01	35-50W	6.8W	24°	64°	365 lm	743 cd	53.6 lm/W
MR16-07-38D-928-957-01	35-50W	6.8W	38°	86°	365 lm	535 cd	53.6 lm/W
MR16-07-1060D-928-957-01	35-50W	6.8W	10°x 60°	64° x 100°	355 lm	527 cd	52.2 lm/W
MR16-07-3060D-928-957-01	35-50W	6.8W	30°x 60°	102° x 134°	325 lm	289 cd	47.8 lm/W

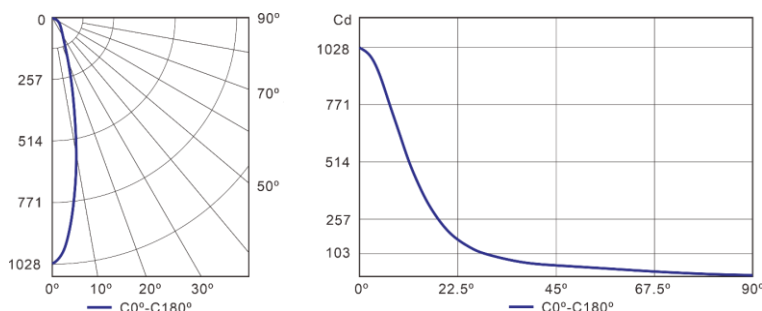
Specifications are at 25°C ambient testing temperature, CCT=3000K, 100% Brightness.

LUMEN OUTPUT / (CBCP) CHART at 100% BRIGHTNESS

Beam Angle	2800K	3000K	3500K	4000K	4500K	5000K	5700K
10°	387 lm (1909 cd)	390 lm (1924 cd)	408 lm (2013 cd)	426 lm (2102 cd)	435 lm (2147 cd)	444 lm (2192 cd)	454 lm (2238 cd)
15°	367 lm (1020 cd)	370 lm (1028 cd)	387 lm (1075 cd)	404 lm (1123 cd)	413 lm (1147 cd)	421 lm (1171 cd)	430 lm (1196 cd)
24°	362 lm (738 cd)	365 lm (743 cd)	382 lm (778 cd)	399 lm (812 cd)	407 lm (829 cd)	416 lm (847 cd)	424 lm (865 cd)
38°	362 lm (531 cd)	365 lm (535 cd)	382 lm (559 cd)	399 lm (829 cd)	407 lm (597 cd)	416 lm (609 cd)	424 lm (622 cd)
10° x 60°	352 lm (523 cd)	355 lm (527 cd)	371 lm (551 cd)	388 lm (576 cd)	396 lm (588 cd)	404 lm (600 cd)	413 lm (613 cd)
30° x 60°	322 lm (287 cd)	325 lm (289 cd)	388 lm (576 cd)	355 lm (316 cd)	363 lm (323 cd)	370 lm (330 cd)	378 lm (337 cd)
Multiplier factor	0.992	1	1.046	1.092	1.116	1.139	1.163

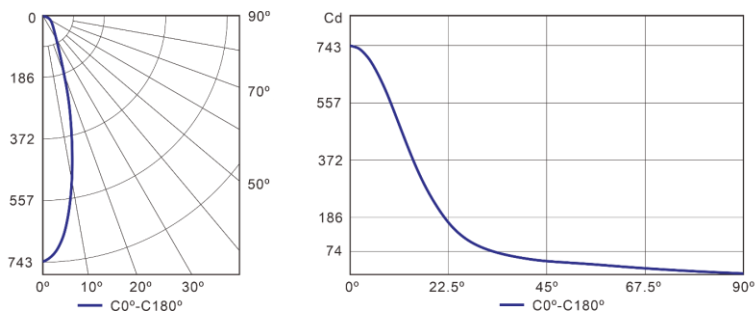
PHOTOMETRY
MR16-07-10D-928-957 @3000K - 100% Brightness


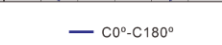
Height	Center Beam Lux	Beam Width
0.5m	5913 lx	Ø0.11m
1.0m	1478 lx	Ø0.22m
1.5m	657 lx	Ø0.33m
2.0m	370 lx	Ø0.44m
2.5m	236 lx	Ø0.55m
3.0m	164 lx	Ø0.67m

MR16-07-15D-928-957 @3000K - 100% Brightness


Height	Center Beam Lux	Beam Width
0.5m	3882 lx	Ø0.19m
1.0m	971 lx	Ø0.38m
1.5m	431 lx	Ø0.57m
2.0m	243 lx	Ø0.76m
2.5m	155 lx	Ø0.95m
3.0m	108 lx	Ø1.14m

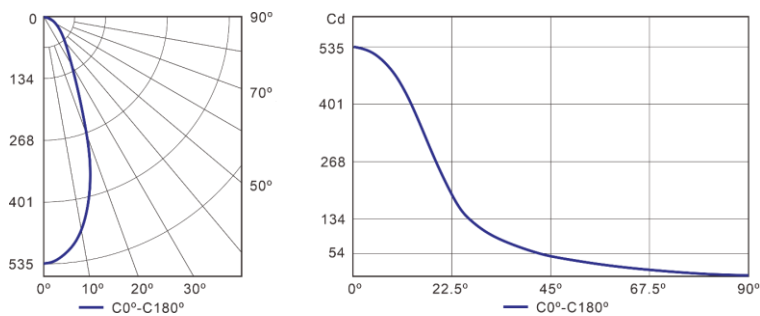
MR16-07-24D-928-957 @3000K - 100% Brightness

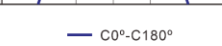


Height		Center Beam Lux	Beam Width
0.5m		3038 lx	Ø0.24m
1.0m		759 lx	Ø0.49m
1.5m		338 lx	Ø0.74m
2.0m		190 lx	Ø0.98m
2.5m		122 lx	Ø1.23m
3.0m		84 lx	Ø1.48m

— C0°-C180°

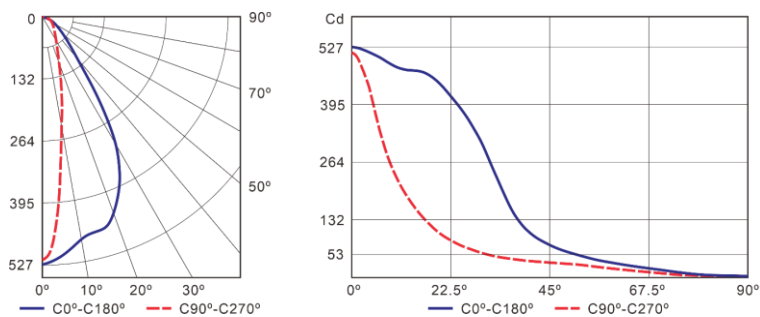
MR16-07-38D-928-957 @3000K - 100% Brightness



Height		Center Beam Lux	Beam Width
0.5m		2086 lx	Ø0.34m
1.0m		522 lx	Ø0.67m
1.5m		232 lx	Ø1.34m
2.0m		130 lx	Ø1.01m
2.5m		84 lx	Ø1.68m
3.0m		58 lx	Ø2.01m

— C0°-C180°

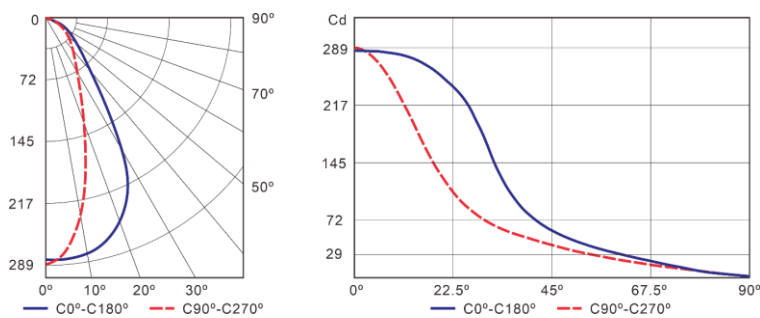
MR16-07-1060D-928-957 @3000K - 100% Brightness

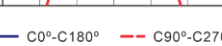


Height		Center Beam Lux	Beam Width
0.5m		1959 lx	0.63m 0.16m
1.0m		490 lx	1.26m 0.33m
1.5m		218 lx	1.90m 0.49m
2.0m		122 lx	2.53m 0.66m
2.5m		78 lx	3.16m 0.82m
3.0m		54 lx	3.79m 0.98m

— C0°-C180° — C90°-C270°

MR16-07-3060D-928-957 @3000K - 100% Brightness



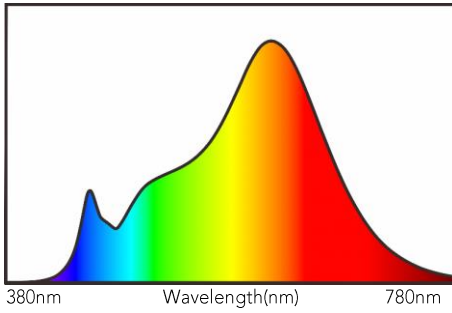
Height		Center Beam Lux	Beam Width
0.5m		1146 lx	0.61m 0.30m
1.0m		286 lx	1.22m 0.60m
1.5m		127 lx	1.83m 0.90m
2.0m		72 lx	2.44m 1.21m
2.5m		46 lx	3.05m 1.51m
3.0m		32 lx	3.66m 1.81m

— C0°-C180° — C90°-C270°

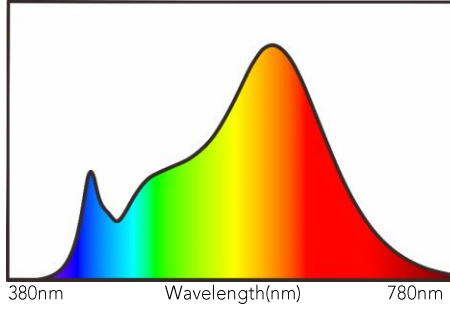
Tested at 25°C ambient testing temperature, CCT=3000K, 100% Brightness

SPECTRAL POWER DISTRIBUTION

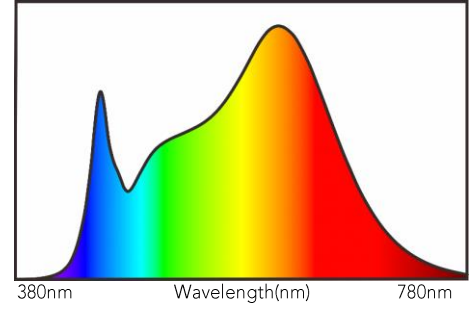
2800K



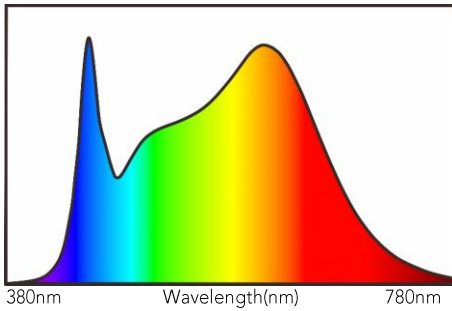
3000K



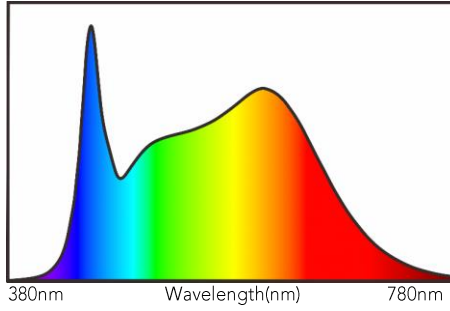
3500K



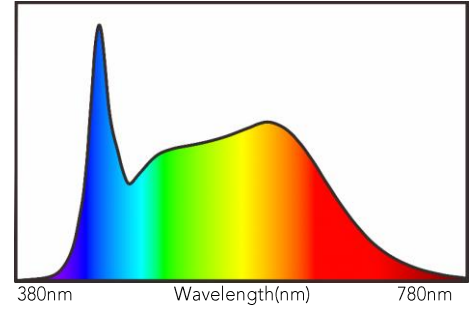
4000K



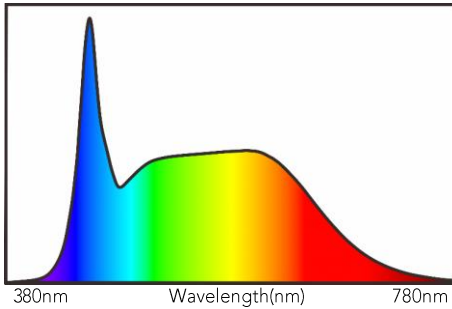
4500K



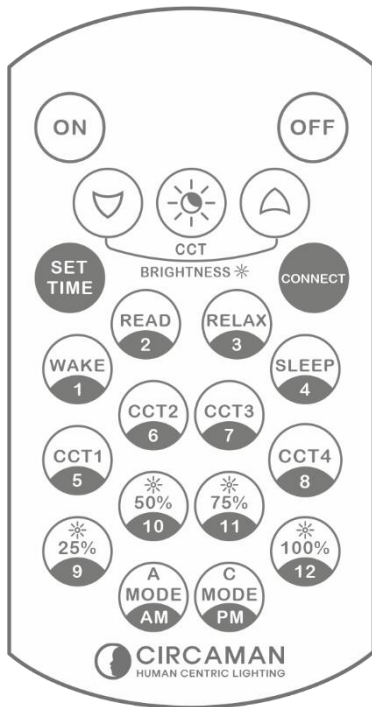
5000K



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

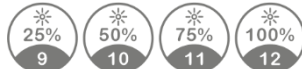


WAKE = 5700K -100% **READ** = 3500K - 75%
RELAX = 2800K - 75% **SLEEP** = 2800 - 50% > 30mins off



PRESET CCT BUTTONS

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



PRESET BRIGHTNESS BUTTONS

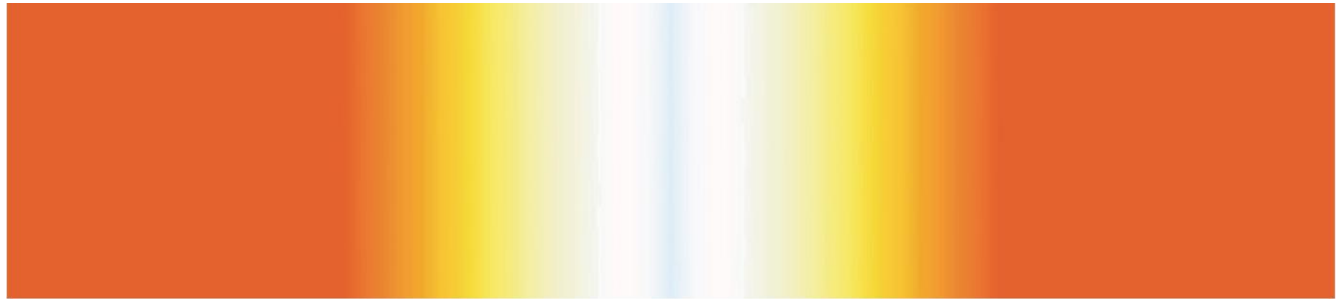


PRESET MODE

A-MODE / C-MODE

A-MODE - AUTO CCT AND BRIGHTNESS CHANGING

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



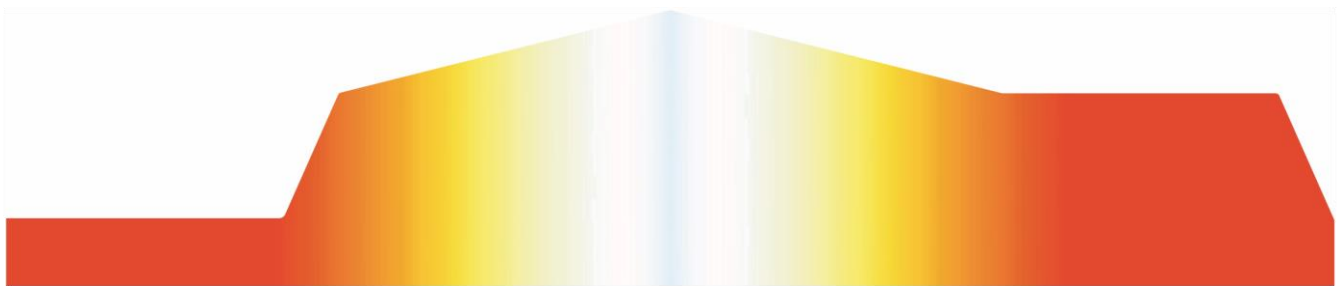
00:00 07:00 12:00 17:00 24:00
3000K 3000K 5700K 3000K 3000K
*100% *100% *100% *100% *100%

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)	365	365	365	365	381	395	410	419	432	419	410	395	381	365	365	365	365	365	365	365	365
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
Equivalent Melanopic Lumen (lm)	207	207	207	207	249	291	341	385	428	385	341	291	249	207	207	207	207	207	207	207	207
Average Photopic Lumen	365		370			403									365					365	
Average Equivalent Melanopic Lumen	207		221			324									207					207	
Total power	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8

*MR16-07-24D-928-957-01 at A-MODE

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

(For Dimmable Electronic Transformer (Min. Load < 2W), Magnetic Transformer, DC Transformer use only)



00:00 05:00 06:00 12:00 18:00 23:00 24:00
2800K 2800K 2800K 5700K 2800K 2800K 2800K
*25% *25% *70% *100% *70% *70% *25%

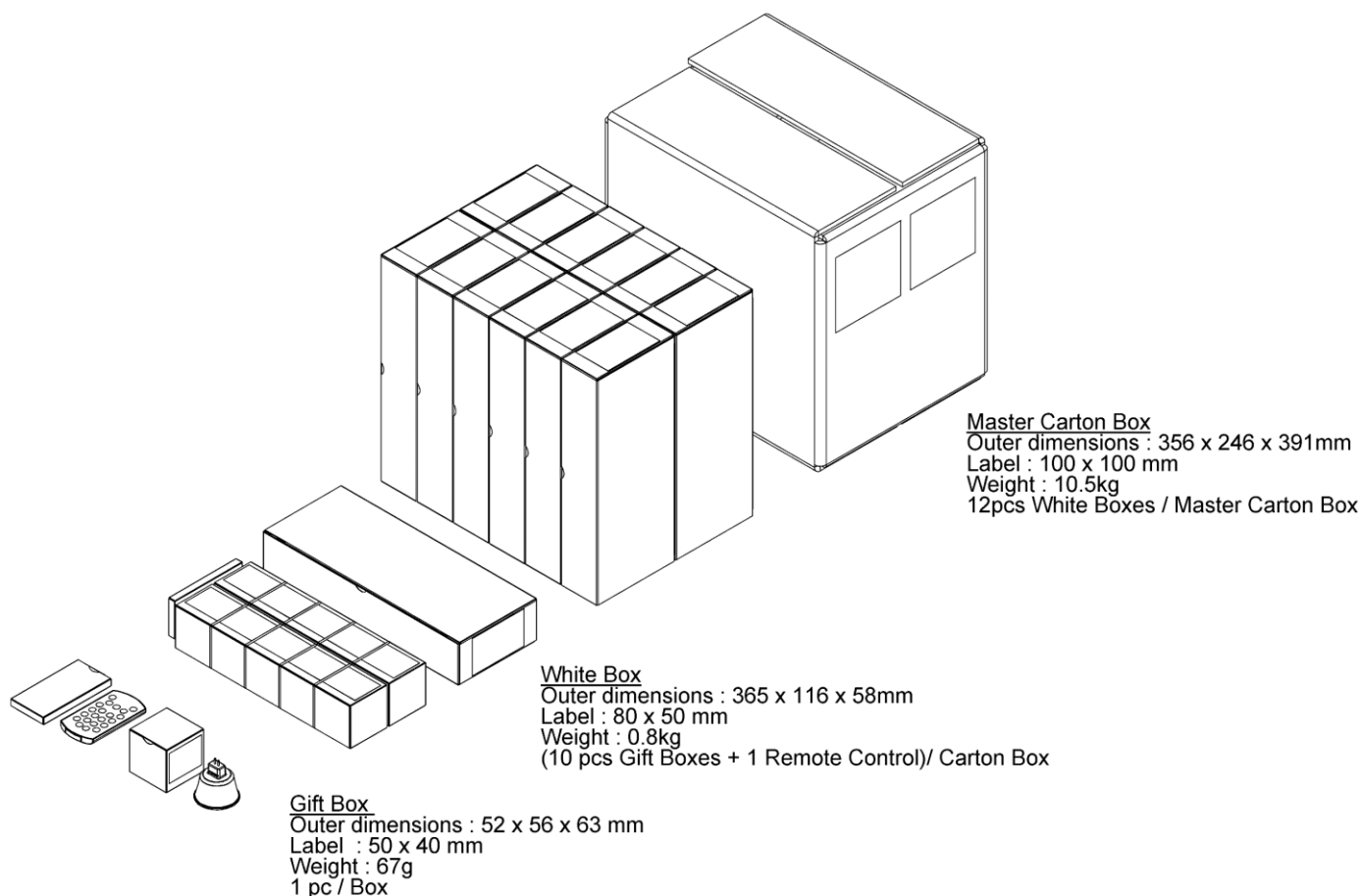
Time	0.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00
CCT (K)	2800	2800	2800	3000	3500	4000	4600	5200	5700	5200	4600	4000	3500	3000	2800	2800	2800	2800	2800	2800	2800
Photopic Lumen (lm)	108	108	303	325	346	368	390	411	433	411	390	368	346	325	303	303	303	303	303	303	108
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
Equivalent Melanopic Lumen (lm)	61	61	172	184	226	272	324	378	429	378	324	272	226	184	172	172	172	172	172	172	61
Average Photopic Lumen	108		325			374									303					206	
Average Equivalent Melanopic Lumen	61		194			296									172					117	
Lamp Power	2.0	2.0	5.7	6.0	6.2	6.3	6.5	6.7	6.8	6.7	6.5	6.3	6.2	6.0	5.6	5.7	5.7	5.7	5.7	5.7	2.0

*MR16-07-24D-928-957-01 at A-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
MR16-07-10D-928-957-01	4 898506 787671	5	4 898506 787688	12	1 48 98506 78768 5
MR16-07-15D-928-957-01	4 898506 787695	5	4 898506 787701	12	1 48 98506 78770 8
MR16-07-24D-928-957-01	4 898506 787718	5	4 898506 787725	12	1 48 98506 78772 2
MR16-07-38D-928-957-01	4 898506 787732	5	4 898506 787749	12	1 48 98506 78774 6
MR16-07-1060D-928-957-01	4 898506 787756	5	4 898506 787763	12	1 48 98506 78776 0

MR16-07-3060D-928-957-01	4 898506 787770	5	4 898506 787787	12	1 48 98506 78778 4
Remote Control	4 898506 787305				


Circadian Lighting Limited

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