



TEST REPORT

According to ANSI/IES LM-80-15
For

Hongli Zhihui Group Co.,Ltd. Guangzhou Branch

Room 316, Building 2, No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China

Model: HL-LM071H384W-80B18C18(Ra2)

Report Type: 7000 Hours Test Report	Product Type: LED Array
Test Engineer: Pote Wang	<i>Pote Wang</i>
Report Number: RSZ180418538-10-7000	
Test Date: 2018-04-24 to 2019-02-13	
Report Date: 2019-02-25	
Reviewed By: Daniel Duan / EE Engineer	<i>Daniel</i>
Test Facility: Test facility was located at No.69,Pulongcun ,Puxinhu Industrial Area, Tangxia , Dongguan, Guangdong, China.	
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Accreditation:	The IAS Accreditation Number TL-460.

Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

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1 - General Information

1.1 Description of LED Light Sources

Sample Size:

40 PCS samples were received on 2018-04-18. The samples were numbered from 1 to 20 and 21 to 40.

Manufacturer:	Hongli Zhihui Group Co.,Ltd. Guangzhou Branch
Part Number:	HL-LM071H384W-80B18C18(Ra2)
Part Type:	LED Array
Drive Level:	DC 2700mA
Nominal CCT:	2700K
Power:	156.2W
Average Current Density per LED die:	593.11 mA/mm ²
Average Power Density per LED die:	1.9060 W/mm ²
CRI:	80
Die Spacing:	0.22mm

Sampling Method:

LED samples for IESNA LM-80 testing consist of units built from a minimum of three manufacturing lots with each manufacturing lot built from different wafer lots built on non-consecutive days.

These manufacturing lots are picked to represent a wide parametric distribution.

Family products covered by this report:

According to *ENERGY STAR® Requirements for the Use of LM-80 Data*, the following products can be covered by this report base on the information and declaration provided by manufacturer. The information of these models shows that the covered products meet all section 4 requirements of *ENERGY STAR® Requirements for the Use of LM-80 Data* (September 28, 2017)

This report covers the following models:

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Tested model	HL-LM071H384W-80B18C18(Ra2)	80	2700K	18	18	0.1992	593.11	150	0.22	2700
Multiple models	HL-LM071H384W-80B18C18(Ra2)	80	3000K	18	18	0.1992	593.11	150	0.22	2700
		80	3500K	18	18	0.1992	593.11	150	0.22	2700
		80	4000K	18	18	0.1992	593.11	150	0.22	2700
		80	5000K	18	18	0.1992	593.11	150	0.22	2700
		80	5700K	18	18	0.1992	593.11	150	0.22	2700
		80	6000K	18	18	0.1992	593.11	150	0.22	2700
Multiple models	HL-LM002H384W-9B4C12(Ra2)	80	2700K	12	4	0.1251	553.57	150	0.26	600
		80	3000K	12	4	0.1251	553.57	150	0.26	600
		80	3500K	12	4	0.1251	553.57	150	0.26	600
		80	4000K	12	4	0.1251	553.57	150	0.26	600
		80	5000K	12	4	0.1251	553.57	150	0.26	600
		80	5700K	12	4	0.1251	553.57	150	0.26	600

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	12	4	0.1251	553.57	150	0.26	600
		80	6500K	12	4	0.1251	553.57	150	0.26	600
Multiple models	HL-LM002H384W-7B3C12(Ra2)	80	2700K	12	3	0.0939	553.57	150	0.43	450
		80	3000K	12	3	0.0939	553.57	150	0.43	450
		80	3500K	12	3	0.0939	553.57	150	0.43	450
		80	4000K	12	3	0.0939	553.57	150	0.43	450
		80	5000K	12	3	0.0939	553.57	150	0.43	450
		80	5700K	12	3	0.0939	553.57	150	0.43	450
		80	6000K	12	3	0.0939	553.57	150	0.43	450
		80	6500K	12	3	0.0939	553.57	150	0.43	450
Multiple models	HL-LM002H384W-5B2C12(Ra2)	80	2700K	12	2	0.0626	553.57	150	0.6	300
		80	3000K	12	2	0.0626	553.57	150	0.6	300
		80	3500K	12	2	0.0626	553.57	150	0.6	300
		80	4000K	12	2	0.0626	553.57	150	0.6	300
		80	5000K	12	2	0.0626	553.57	150	0.6	300
		80	5700K	12	2	0.0626	553.57	150	0.6	300
		80	6000K	12	2	0.0626	553.57	150	0.6	300
		80	6500K	12	2	0.0626	553.57	150	0.6	300
Multiple models	HL-LM002H384W-5B5C3(Ra2)	80	2700K	3	5	0.0389	553.57	150	0.86	750
		80	3000K	3	5	0.0389	553.57	150	0.86	750
		80	3500K	3	5	0.0389	553.57	150	0.86	750
		80	4000K	3	5	0.0389	553.57	150	0.86	750
		80	5000K	3	5	0.0389	553.57	150	0.86	750
		80	5700K	3	5	0.0389	553.57	150	0.86	750
		80	6000K	3	5	0.0389	553.57	150	0.86	750
		80	6500K	3	5	0.0389	553.57	150	0.86	750
Multiple models	HL-LM002H384W-5B1C10(Ra2)	80	2700K	10	1	0.0260	553.57	150	1.48	150
		80	3000K	10	1	0.0260	553.57	150	1.48	150
		80	3500K	10	1	0.0260	553.57	150	1.48	150
		80	4000K	10	1	0.0260	553.57	150	1.48	150
		80	5000K	10	1	0.0260	553.57	150	1.48	150
		80	5700K	10	1	0.0260	553.57	150	1.48	150
		80	6000K	10	1	0.0260	553.57	150	1.48	150
		80	6500K	10	1	0.0260	553.57	150	1.48	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM002H384W-6B4C3(Ra2)	80	2700K	3	4	0.0312	553.57	150	1.28	600
		80	3000K	3	4	0.0312	553.57	150	1.28	600
		80	3500K	3	4	0.0312	553.57	150	1.28	600
		80	4000K	3	4	0.0312	553.57	150	1.28	600
		80	5000K	3	4	0.0312	553.57	150	1.28	600
		80	5700K	3	4	0.0312	553.57	150	1.28	600
		80	6000K	3	4	0.0312	553.57	150	1.28	600
		80	6500K	3	4	0.0312	553.57	150	1.28	600
Multiple models	HL-LM002H384W-7B2C7(Ra2)	80	2700K	7	2	0.0545	553.57	150	0.89	300
		80	3000K	7	2	0.0545	553.57	150	0.89	300
		80	3500K	7	2	0.0545	553.57	150	0.89	300
		80	4000K	7	2	0.0545	553.57	150	0.89	300
		80	5000K	7	2	0.0545	553.57	150	0.89	300
		80	5700K	7	2	0.0545	553.57	150	0.89	300
		80	6000K	7	2	0.0545	553.57	150	0.89	300
		80	6500K	7	2	0.0545	553.57	150	0.89	300
Multiple models	HL-LM002H384W-7B1C14(Ra2)	80	2700K	14	1	0.0545	553.57	150	1.22	150
		80	3000K	14	1	0.0545	553.57	150	1.22	150
		80	3500K	14	1	0.0545	553.57	150	1.22	150
		80	4000K	14	1	0.0545	553.57	150	1.22	150
		80	5000K	14	1	0.0545	553.57	150	1.22	150
		80	5700K	14	1	0.0545	553.57	150	1.22	150
		80	6000K	14	1	0.0545	553.57	150	1.22	150
		80	6500K	14	1	0.0545	553.57	150	1.22	150
Multiple models	HL-LM002H384W-7B1C24(Ra2)	80	2700K	24	1	0.0623	553.57	150	0.79	150
		80	3000K	24	1	0.0623	553.57	150	0.79	150
		80	3500K	24	1	0.0623	553.57	150	0.79	150
		80	4000K	24	1	0.0623	553.57	150	0.79	150
		80	5000K	24	1	0.0623	553.57	150	0.79	150
		80	5700K	24	1	0.0623	553.57	150	0.79	150
		80	6000K	24	1	0.0623	553.57	150	0.79	150
		80	6500K	24	1	0.0623	553.57	150	0.79	150
Multiple models	HL-LM002H384W-8B1C16(Ra2)	80	2700K	16	1	0.0395	553.57	150	1.22	150
		80	3000K	16	1	0.0395	553.57	150	1.22	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	16	1	0.0395	553.57	150	1.22	150
		80	4000K	16	1	0.0395	553.57	150	1.22	150
		80	5000K	16	1	0.0395	553.57	150	1.22	150
		80	5700K	16	1	0.0395	553.57	150	1.22	150
		80	6000K	16	1	0.0395	553.57	150	1.22	150
		80	6500K	16	1	0.0395	553.57	150	1.22	150
Multiple models	HL-LM002H384W-9B1C18(Ra2)	80	2700K	18	1	0.0467	553.57	150	0.58	150
		80	3000K	18	1	0.0467	553.57	150	0.58	150
		80	3500K	18	1	0.0467	553.57	150	0.58	150
		80	4000K	18	1	0.0467	553.57	150	0.58	150
		80	5000K	18	1	0.0467	553.57	150	0.58	150
		80	5700K	18	1	0.0467	553.57	150	0.58	150
		80	6000K	18	1	0.0467	553.57	150	0.58	150
		80	6500K	18	1	0.0467	553.57	150	0.58	150
Multiple models	HL-LM002H384W-10B2C10(Ra2)	80	2700K	10	2	0.0519	553.57	150	0.52	300
		80	3000K	10	2	0.0519	553.57	150	0.52	300
		80	3500K	10	2	0.0519	553.57	150	0.52	300
		80	4000K	10	2	0.0519	553.57	150	0.52	300
		80	5000K	10	2	0.0519	553.57	150	0.52	300
		80	5700K	10	2	0.0519	553.57	150	0.52	300
		80	6000K	10	2	0.0519	553.57	150	0.52	300
		80	6500K	10	2	0.0519	553.57	150	0.52	300
Multiple models	HL-LM002H384W-10B1C20(Ra2)	80	2700K	20	1	0.0519	553.57	150	0.8	150
		80	3000K	20	1	0.0519	553.57	150	0.8	150
		80	3500K	20	1	0.0519	553.57	150	0.8	150
		80	4000K	20	1	0.0519	553.57	150	0.8	150
		80	5000K	20	1	0.0519	553.57	150	0.8	150
		80	5700K	20	1	0.0519	553.57	150	0.8	150
		80	6000K	20	1	0.0519	553.57	150	0.8	150
		80	6500K	20	1	0.0519	553.57	150	0.8	150
Multiple models	HL-LM002H384W-10B2C24(Ra2)	80	2700K	24	2	0.1251	553.57	150	0.28	300
		80	3000K	24	2	0.1251	553.57	150	0.28	300
		80	3500K	24	2	0.1251	553.57	150	0.28	300
		80	4000K	24	2	0.1251	553.57	150	0.28	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	24	2	0.1251	553.57	150	0.28	300
		80	5700K	24	2	0.1251	553.57	150	0.28	300
		80	6000K	24	2	0.1251	553.57	150	0.28	300
		80	6500K	24	2	0.1251	553.57	150	0.28	300
Multiple models	HL-LM002H384W-15B2C15(Ra2)	80	2700K	15	2	0.0778	553.57	150	0.79	300
		80	3000K	15	2	0.0778	553.57	150	0.79	300
		80	3500K	15	2	0.0778	553.57	150	0.79	300
		80	4000K	15	2	0.0778	553.57	150	0.79	300
		80	5000K	15	2	0.0778	553.57	150	0.79	300
		80	5700K	15	2	0.0778	553.57	150	0.79	300
		80	6000K	15	2	0.0778	553.57	150	0.79	300
Multiple models	HL-LM002H384W-15B1C30(Ra2)	80	2700K	30	1	0.0778	553.57	150	0.58	150
		80	3000K	30	1	0.0778	553.57	150	0.58	150
		80	3500K	30	1	0.0778	553.57	150	0.58	150
		80	4000K	30	1	0.0778	553.57	150	0.58	150
		80	5000K	30	1	0.0778	553.57	150	0.58	150
		80	5700K	30	1	0.0778	553.57	150	0.58	150
		80	6000K	30	1	0.0778	553.57	150	0.58	150
		80	6500K	30	1	0.0778	553.57	150	0.58	150
Multiple models	HL-LM002H384W-18B2C18(Ra2)	80	2700K	18	2	0.0934	553.57	150	0.59	300
		80	3000K	18	2	0.0934	553.57	150	0.59	300
		80	3500K	18	2	0.0934	553.57	150	0.59	300
		80	4000K	18	2	0.0934	553.57	150	0.59	300
		80	5000K	18	2	0.0934	553.57	150	0.59	300
		80	5700K	18	2	0.0934	553.57	150	0.59	300
		80	6000K	18	2	0.0934	553.57	150	0.59	300
		80	6500K	18	2	0.0934	553.57	150	0.59	300
Multiple models	HL-LM002H384W-18B1C36(Ra2)	80	2700K	36	1	0.0934	553.57	150	0.67	150
		80	3000K	36	1	0.0934	553.57	150	0.67	150
		80	3500K	36	1	0.0934	553.57	150	0.67	150
		80	4000K	36	1	0.0934	553.57	150	0.67	150
		80	5000K	36	1	0.0934	553.57	150	0.67	150
		80	5700K	36	1	0.0934	553.57	150	0.67	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	36	1	0.0934	553.57	150	0.67	150
		80	6500K	36	1	0.0934	553.57	150	0.67	150
Multiple models	HL-LM002H384W-20B2C20(Ra2)	80	2700K	20	2	0.1037	553.57	150	0.55	300
		80	3000K	20	2	0.1037	553.57	150	0.55	300
		80	3500K	20	2	0.1037	553.57	150	0.55	300
		80	4000K	20	2	0.1037	553.57	150	0.55	300
		80	5000K	20	2	0.1037	553.57	150	0.55	300
		80	5700K	20	2	0.1037	553.57	150	0.55	300
		80	6000K	20	2	0.1037	553.57	150	0.55	300
		80	6500K	20	2	0.1037	553.57	150	0.55	300
Multiple models	HL-LM002H384W-20B1C40(Ra2)	80	2700K	40	1	0.1037	553.57	150	0.55	150
		80	3000K	40	1	0.1037	553.57	150	0.55	150
		80	3500K	40	1	0.1037	553.57	150	0.55	150
		80	4000K	40	1	0.1037	553.57	150	0.55	150
		80	5000K	40	1	0.1037	553.57	150	0.55	150
		80	5700K	40	1	0.1037	553.57	150	0.55	150
		80	6000K	40	1	0.1037	553.57	150	0.55	150
		80	6500K	40	1	0.1037	553.57	150	0.55	150
Multiple models	HL-LM002H9VW-6B1C29(Ra2)	80	2700K	29	1	0.0502	242.19	35	0.93	35
		80	3000K	29	1	0.0502	242.19	35	0.93	35
		80	3500K	29	1	0.0502	242.19	35	0.93	35
		80	4000K	29	1	0.0502	242.19	35	0.93	35
		80	5000K	29	1	0.0502	242.19	35	0.93	35
		80	5700K	29	1	0.0502	242.19	35	0.93	35
		80	6000K	29	1	0.0502	242.19	35	0.93	35
		80	6500K	29	1	0.0502	242.19	35	0.93	35
Multiple models	HL-LM002H431W-4B1C12(Ra2)	80	2700K	12	1	0.0203	516.67	100	1.28	100
		80	3000K	12	1	0.0203	516.67	100	1.28	100
		80	3500K	12	1	0.0203	516.67	100	1.28	100
		80	4000K	12	1	0.0203	516.67	100	1.28	100
		80	5000K	12	1	0.0203	516.67	100	1.28	100
		80	5700K	12	1	0.0203	516.67	100	1.28	100
		80	6000K	12	1	0.0203	516.67	100	1.28	100
		80	6500K	12	1	0.0203	516.67	100	1.28	100

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM002D46W-9B4C12(Ra2)	80	2700K	12	4	0.1307	435.54	150	0.28	600
		80	3000K	12	4	0.1307	435.54	150	0.28	600
		80	3500K	12	4	0.1307	435.54	150	0.28	600
		80	4000K	12	4	0.1307	435.54	150	0.28	600
		80	5000K	12	4	0.1307	435.54	150	0.28	600
		80	5700K	12	4	0.1307	435.54	150	0.28	600
		80	6000K	12	4	0.1307	435.54	150	0.28	600
		80	6500K	12	4	0.1307	435.54	150	0.28	600
Multiple models	HL-LM002D46W-9B4C12(Ra2)-S	80	2700K	12	4	0.1307	435.54	150	0.28	600
		80	3000K	12	4	0.1307	435.54	150	0.28	600
		80	3500K	12	4	0.1307	435.54	150	0.28	600
		80	4000K	12	4	0.1307	435.54	150	0.28	600
		80	5000K	12	4	0.1307	435.54	150	0.28	600
		80	5700K	12	4	0.1307	435.54	150	0.28	600
		80	6000K	12	4	0.1307	435.54	150	0.28	600
		80	6500K	12	4	0.1307	435.54	150	0.28	600
Multiple models	LM098D52W-7B2C12(Ra2)	80	2700K	12	2	0.0565	397.44	200	0.28	400
		80	3000K	12	2	0.0565	397.44	200	0.28	400
		80	3500K	12	2	0.0565	397.44	200	0.28	400
		80	4000K	12	2	0.0565	397.44	200	0.28	400
		80	5000K	12	2	0.0565	397.44	200	0.28	400
		80	5700K	12	2	0.0565	397.44	200	0.28	400
		80	6000K	12	2	0.0565	397.44	200	0.28	400
		80	6500K	12	2	0.0565	397.44	200	0.28	400
Multiple models	LM100D52W-26B8C12(Ra2)	80	2700K	12	8	0.1783	397.44	200	0.28	1600
		80	3000K	12	8	0.1783	397.44	200	0.28	1600
		80	3500K	12	8	0.1783	397.44	200	0.28	1600
		80	4000K	12	8	0.1783	397.44	200	0.28	1600
		80	5000K	12	8	0.1783	397.44	200	0.28	1600
		80	5700K	12	8	0.1783	397.44	200	0.28	1600
		80	6000K	12	8	0.1783	397.44	200	0.28	1600
		80	6500K	12	8	0.1783	397.44	200	0.28	1600
Multiple models	LM099D52W-18B5C12(Ra2)	80	2700K	12	5	0.1226	437.18	220	0.26	1100
		80	3000K	12	5	0.1226	437.18	220	0.26	1100

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	12	5	0.1226	437.18	220	0.26	1100
		80	4000K	12	5	0.1226	437.18	220	0.26	1100
		80	5000K	12	5	0.1226	437.18	220	0.26	1100
		80	5700K	12	5	0.1226	437.18	220	0.26	1100
		80	6000K	12	5	0.1226	437.18	220	0.26	1100
		80	6500K	12	5	0.1226	437.18	220	0.26	1100
Multiple models	HL-LM065D94W-6B1C12(Ra2)	80	2700K	12	1	0.0300	264.21	150	0.5	150
		80	3000K	12	1	0.0300	264.21	150	0.5	150
		80	3500K	12	1	0.0300	264.21	150	0.5	150
		80	4000K	12	1	0.0300	264.21	150	0.5	150
		80	5000K	12	1	0.0300	264.21	150	0.5	150
		80	5700K	12	1	0.0300	264.21	150	0.5	150
		80	6000K	12	1	0.0300	264.21	150	0.5	150
		80	6500K	12	1	0.0300	264.21	150	0.5	150
Multiple models	HL-LM065D94W-8B2C8(Ra2)	80	2700K	8	2	0.0400	264.21	150	0.37	300
		80	3000K	8	2	0.0400	264.21	150	0.37	300
		80	3500K	8	2	0.0400	264.21	150	0.37	300
		80	4000K	8	2	0.0400	264.21	150	0.37	300
		80	5000K	8	2	0.0400	264.21	150	0.37	300
		80	5700K	8	2	0.0400	264.21	150	0.37	300
		80	6000K	8	2	0.0400	264.21	150	0.37	300
		80	6500K	8	2	0.0400	264.21	150	0.37	300
Multiple models	HL-LM065D94W-10B3C8(Ra2)	80	2700K	8	3	0.0600	264.21	150	0.28	450
		80	3000K	8	3	0.0600	264.21	150	0.28	450
		80	3500K	8	3	0.0600	264.21	150	0.28	450
		80	4000K	8	3	0.0600	264.21	150	0.28	450
		80	5000K	8	3	0.0600	264.21	150	0.28	450
		80	5700K	8	3	0.0600	264.21	150	0.28	450
		80	6000K	8	3	0.0600	264.21	150	0.28	450
		80	6500K	8	3	0.0600	264.21	150	0.28	450
Multiple models	HL-LM065D94W-10B2C12(Ra2)	80	2700K	12	2	0.0600	264.21	150	0.28	300
		80	3000K	12	2	0.0600	264.21	150	0.28	300
		80	3500K	12	2	0.0600	264.21	150	0.28	300
		80	4000K	12	2	0.0600	264.21	150	0.28	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	12	2	0.0600	264.21	150	0.28	300
		80	5700K	12	2	0.0600	264.21	150	0.28	300
		80	6000K	12	2	0.0600	264.21	150	0.28	300
		80	6500K	12	2	0.0600	264.21	150	0.28	300
Multiple models	HL-LM065D42W-6B1C12(Ra2)	80	2700K	12	1	0.0300	301.95	150	0.51	150
		80	3000K	12	1	0.0300	301.95	150	0.51	150
		80	3500K	12	1	0.0300	301.95	150	0.51	150
		80	4000K	12	1	0.0300	301.95	150	0.51	150
		80	5000K	12	1	0.0300	301.95	150	0.51	150
		80	5700K	12	1	0.0300	301.95	150	0.51	150
		80	6000K	12	1	0.0300	301.95	150	0.51	150
Multiple models	HL-LM065D42W-8B2C8(Ra2)	80	2700K	8	2	0.0400	301.95	150	0.38	300
		80	3000K	8	2	0.0400	301.95	150	0.38	300
		80	3500K	8	2	0.0400	301.95	150	0.38	300
		80	4000K	8	2	0.0400	301.95	150	0.38	300
		80	5000K	8	2	0.0400	301.95	150	0.38	300
		80	5700K	8	2	0.0400	301.95	150	0.38	300
		80	6000K	8	2	0.0400	301.95	150	0.38	300
		80	6500K	8	2	0.0400	301.95	150	0.38	300
Multiple models	HL-LM065D42W-10B3C8(Ra2)	80	2700K	8	3	0.0600	301.95	150	0.29	450
		80	3000K	8	3	0.0600	301.95	150	0.29	450
		80	3500K	8	3	0.0600	301.95	150	0.29	450
		80	4000K	8	3	0.0600	301.95	150	0.29	450
		80	5000K	8	3	0.0600	301.95	150	0.29	450
		80	5700K	8	3	0.0600	301.95	150	0.29	450
		80	6000K	8	3	0.0600	301.95	150	0.29	450
		80	6500K	8	3	0.0600	301.95	150	0.29	450
Multiple models	HL-LM065D42W-10B2C12(Ra2)	80	2700K	12	2	0.0600	301.95	150	0.29	300
		80	3000K	12	2	0.0600	301.95	150	0.29	300
		80	3500K	12	2	0.0600	301.95	150	0.29	300
		80	4000K	12	2	0.0600	301.95	150	0.29	300
		80	5000K	12	2	0.0600	301.95	150	0.29	300
		80	5700K	12	2	0.0600	301.95	150	0.29	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	12	2	0.0600	301.95	150	0.29	300
		80	6500K	12	2	0.0600	301.95	150	0.29	300
Multiple models	HL-LM002D42W-10B3C12(Ra2)	80	2700K	12	3	0.0895	301.95	150	0.43	450
		80	3000K	12	3	0.0895	301.95	150	0.43	450
		80	3500K	12	3	0.0895	301.95	150	0.43	450
		80	4000K	12	3	0.0895	301.95	150	0.43	450
		80	5000K	12	3	0.0895	301.95	150	0.43	450
		80	5700K	12	3	0.0895	301.95	150	0.43	450
		80	6000K	12	3	0.0895	301.95	150	0.43	450
		80	6500K	12	3	0.0895	301.95	150	0.43	450
Multiple models	HL-LMH02D90W-9B4C12(Ra2)	80	2700K	12	4	0.1202	325.63	150	0.28	600
		80	3000K	12	4	0.1202	325.63	150	0.28	600
		80	3500K	12	4	0.1202	325.63	150	0.28	600
		80	4000K	12	4	0.1202	325.63	150	0.28	600
		80	5000K	12	4	0.1202	325.63	150	0.28	600
		80	5700K	12	4	0.1202	325.63	150	0.28	600
		80	6000K	12	4	0.1202	325.63	150	0.28	600
		80	6500K	12	4	0.1202	325.63	150	0.28	600
Multiple models	HL-LMH02D90W-7B3C12(Ra2)	80	2700K	12	3	0.0901	325.63	150	0.5	450
		80	3000K	12	3	0.0901	325.63	150	0.5	450
		80	3500K	12	3	0.0901	325.63	150	0.5	450
		80	4000K	12	3	0.0901	325.63	150	0.5	450
		80	5000K	12	3	0.0901	325.63	150	0.5	450
		80	5700K	12	3	0.0901	325.63	150	0.5	450
		80	6000K	12	3	0.0901	325.63	150	0.5	450
		80	6500K	12	3	0.0901	325.63	150	0.5	450
Multiple models	HL-LMH02D90W-5B2C12(Ra2)	80	2700K	12	2	0.0601	325.63	150	0.75	300
		80	3000K	12	2	0.0601	325.63	150	0.75	300
		80	3500K	12	2	0.0601	325.63	150	0.75	300
		80	4000K	12	2	0.0601	325.63	150	0.75	300
		80	5000K	12	2	0.0601	325.63	150	0.75	300
		80	5700K	12	2	0.0601	325.63	150	0.75	300
		80	6000K	12	2	0.0601	325.63	150	0.75	300
		80	6500K	12	2	0.0601	325.63	150	0.75	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LMH02D90W-3B1C12(Ra2)	80	2700K	12	1	0.0300	325.63	150	1.33	150
		80	3000K	12	1	0.0300	325.63	150	1.33	150
		80	3500K	12	1	0.0300	325.63	150	1.33	150
		80	4000K	12	1	0.0300	325.63	150	1.33	150
		80	5000K	12	1	0.0300	325.63	150	1.33	150
		80	5700K	12	1	0.0300	325.63	150	1.33	150
		80	6000K	12	1	0.0300	325.63	150	1.33	150
		80	6500K	12	1	0.0300	325.63	150	1.33	150
Multiple models	HL-LM002D94W-9B4C12(Ra2)	80	2700K	12	4	0.1185	264.21	150	0.26	600
		80	3000K	12	4	0.1185	264.21	150	0.26	600
		80	3500K	12	4	0.1185	264.21	150	0.26	600
		80	4000K	12	4	0.1185	264.21	150	0.26	600
		80	5000K	12	4	0.1185	264.21	150	0.26	600
		80	5700K	12	4	0.1185	264.21	150	0.26	600
		80	6000K	12	4	0.1185	264.21	150	0.26	600
		80	6500K	12	4	0.1185	264.21	150	0.26	600
Multiple models	HL-LM002D94W-7B3C12(Ra2)	80	2700K	12	3	0.0889	264.21	150	0.44	450
		80	3000K	12	3	0.0889	264.21	150	0.44	450
		80	3500K	12	3	0.0889	264.21	150	0.44	450
		80	4000K	12	3	0.0889	264.21	150	0.44	450
		80	5000K	12	3	0.0889	264.21	150	0.44	450
		80	5700K	12	3	0.0889	264.21	150	0.44	450
		80	6000K	12	3	0.0889	264.21	150	0.44	450
		80	6500K	12	3	0.0889	264.21	150	0.44	450
Multiple models	HL-LM002D94W-5B2C12(Ra2)	80	2700K	12	2	0.0593	264.21	150	0.71	300
		80	3000K	12	2	0.0593	264.21	150	0.71	300
		80	3500K	12	2	0.0593	264.21	150	0.71	300
		80	4000K	12	2	0.0593	264.21	150	0.71	300
		80	5000K	12	2	0.0593	264.21	150	0.71	300
		80	5700K	12	2	0.0593	264.21	150	0.71	300
		80	6000K	12	2	0.0593	264.21	150	0.71	300
		80	6500K	12	2	0.0593	264.21	150	0.71	300
Multiple models	HL-LM002D94W-3B1C12(Ra2)	80	2700K	12	1	0.0296	264.21	150	1.27	150
		80	3000K	12	1	0.0296	264.21	150	1.27	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	12	1	0.0296	264.21	150	1.27	150
		80	4000K	12	1	0.0296	264.21	150	1.27	150
		80	5000K	12	1	0.0296	264.21	150	1.27	150
		80	5700K	12	1	0.0296	264.21	150	1.27	150
		80	6000K	12	1	0.0296	264.21	150	1.27	150
		80	6500K	12	1	0.0296	264.21	150	1.27	150
Multiple models	HL-LM002D42W-9B4C12(Ra2)	80	2700K	12	4	0.1202	301.95	150	0.28	600
		80	3000K	12	4	0.1202	301.95	150	0.28	600
		80	3500K	12	4	0.1202	301.95	150	0.28	600
		80	4000K	12	4	0.1202	301.95	150	0.28	600
		80	5000K	12	4	0.1202	301.95	150	0.28	600
		80	5700K	12	4	0.1202	301.95	150	0.28	600
		80	6000K	12	4	0.1202	301.95	150	0.28	600
		80	6500K	12	4	0.1202	301.95	150	0.28	600
Multiple models	HL-LM002D42W-7B3C12(Ra2)	80	2700K	12	3	0.0901	301.95	150	0.5	450
		80	3000K	12	3	0.0901	301.95	150	0.5	450
		80	3500K	12	3	0.0901	301.95	150	0.5	450
		80	4000K	12	3	0.0901	301.95	150	0.5	450
		80	5000K	12	3	0.0901	301.95	150	0.5	450
		80	5700K	12	3	0.0901	301.95	150	0.5	450
		80	6000K	12	3	0.0901	301.95	150	0.5	450
		80	6500K	12	3	0.0901	301.95	150	0.5	450
Multiple models	HL-LM002D42W-5B2C12(Ra2)	80	2700K	12	2	0.0601	301.95	150	0.75	300
		80	3000K	12	2	0.0601	301.95	150	0.75	300
		80	3500K	12	2	0.0601	301.95	150	0.75	300
		80	4000K	12	2	0.0601	301.95	150	0.75	300
		80	5000K	12	2	0.0601	301.95	150	0.75	300
		80	5700K	12	2	0.0601	301.95	150	0.75	300
		80	6000K	12	2	0.0601	301.95	150	0.75	300
		80	6500K	12	2	0.0601	301.95	150	0.75	300
Multiple models	HL-LM002D42W-3B1C12(Ra2)	80	2700K	12	1	0.0300	301.95	150	1.33	150
		80	3000K	12	1	0.0300	301.95	150	1.33	150
		80	3500K	12	1	0.0300	301.95	150	1.33	150
		80	4000K	12	1	0.0300	301.95	150	1.33	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	12	1	0.0300	301.95	150	1.33	150
		80	5700K	12	1	0.0300	301.95	150	1.33	150
		80	6000K	12	1	0.0300	301.95	150	1.33	150
		80	6500K	12	1	0.0300	301.95	150	1.33	150
Multiple models	HL-LML02H421W-9B4C12(Ra2)	80	2700K	12	4	0.0731	516.67	90	0.57	360
		80	3000K	12	4	0.0731	516.67	90	0.57	360
		80	3500K	12	4	0.0731	516.67	90	0.57	360
		80	4000K	12	4	0.0731	516.67	90	0.57	360
		80	5000K	12	4	0.0731	516.67	90	0.57	360
		80	5700K	12	4	0.0731	516.67	90	0.57	360
		80	6000K	12	4	0.0731	516.67	90	0.57	360
Multiple models	HL-LML02H421W-7B3C12(Ra2)	80	2700K	12	3	0.0548	516.67	90	0.77	270
		80	3000K	12	3	0.0548	516.67	90	0.77	270
		80	3500K	12	3	0.0548	516.67	90	0.77	270
		80	4000K	12	3	0.0548	516.67	90	0.77	270
		80	5000K	12	3	0.0548	516.67	90	0.77	270
		80	5700K	12	3	0.0548	516.67	90	0.77	270
		80	6000K	12	3	0.0548	516.67	90	0.77	270
Multiple models	HL-LML02H421W-5B2C12(Ra2)	80	2700K	12	2	0.0365	516.67	90	1.04	180
		80	3000K	12	2	0.0365	516.67	90	1.04	180
		80	3500K	12	2	0.0365	516.67	90	1.04	180
		80	4000K	12	2	0.0365	516.67	90	1.04	180
		80	5000K	12	2	0.0365	516.67	90	1.04	180
		80	5700K	12	2	0.0365	516.67	90	1.04	180
		80	6000K	12	2	0.0365	516.67	90	1.04	180
		80	6500K	12	2	0.0365	516.67	90	1.04	180
Multiple models	HL-LML02H421W-3B1C12(Ra2)	80	2700K	12	1	0.0183	516.67	90	1.6	90
		80	3000K	12	1	0.0183	516.67	90	1.6	90
		80	3500K	12	1	0.0183	516.67	90	1.6	90
		80	4000K	12	1	0.0183	516.67	90	1.6	90
		80	5000K	12	1	0.0183	516.67	90	1.6	90
		80	5700K	12	1	0.0183	516.67	90	1.6	90

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	12	1	0.0183	516.67	90	1.6	90
		80	6500K	12	1	0.0183	516.67	90	1.6	90
Multiple models	HL-LM021H384W-3B1C6(Ra2)	80	2700K	6	1	0.0148	553.57	150	1.09	150
		80	3000K	6	1	0.0148	553.57	150	1.09	150
		80	3500K	6	1	0.0148	553.57	150	1.09	150
		80	4000K	6	1	0.0148	553.57	150	1.09	150
		80	5000K	6	1	0.0148	553.57	150	1.09	150
		80	5700K	6	1	0.0148	553.57	150	1.09	150
		80	6000K	6	1	0.0148	553.57	150	1.09	150
		80	6500K	6	1	0.0148	553.57	150	1.09	150
Multiple models	HL-LM021H384W-5B1C10(Ra2)	80	2700K	10	1	0.0247	553.57	150	0.74	150
		80	3000K	10	1	0.0247	553.57	150	0.74	150
		80	3500K	10	1	0.0247	553.57	150	0.74	150
		80	4000K	10	1	0.0247	553.57	150	0.74	150
		80	5000K	10	1	0.0247	553.57	150	0.74	150
		80	5700K	10	1	0.0247	553.57	150	0.74	150
		80	6000K	10	1	0.0247	553.57	150	0.74	150
		80	6500K	10	1	0.0247	553.57	150	0.74	150
Multiple models	HL-LM021H384W-7B1C14(Ra2)	80	2700K	14	1	0.0346	553.57	150	0.49	150
		80	3000K	14	1	0.0346	553.57	150	0.49	150
		80	3500K	14	1	0.0346	553.57	150	0.49	150
		80	4000K	14	1	0.0346	553.57	150	0.49	150
		80	5000K	14	1	0.0346	553.57	150	0.49	150
		80	5700K	14	1	0.0346	553.57	150	0.49	150
		80	6000K	14	1	0.0346	553.57	150	0.49	150
		80	6500K	14	1	0.0346	553.57	150	0.49	150
Multiple models	HL-LM021H384W-10B1C20(Ra2)	80	2700K	20	1	0.0494	553.57	150	0.32	150
		80	3000K	20	1	0.0494	553.57	150	0.32	150
		80	3500K	20	1	0.0494	553.57	150	0.32	150
		80	4000K	20	1	0.0494	553.57	150	0.32	150
		80	5000K	20	1	0.0494	553.57	150	0.32	150
		80	5700K	20	1	0.0494	553.57	150	0.32	150
		80	6000K	20	1	0.0494	553.57	150	0.32	150
		80	6500K	20	1	0.0494	553.57	150	0.32	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL- LM021H384W- 12B1C24(Ra2)	80	2700K	24	1	0.0593	553.57	150	0.32	150
		80	3000K	24	1	0.0593	553.57	150	0.32	150
		80	3500K	24	1	0.0593	553.57	150	0.32	150
		80	4000K	24	1	0.0593	553.57	150	0.32	150
		80	5000K	24	1	0.0593	553.57	150	0.32	150
		80	5700K	24	1	0.0593	553.57	150	0.32	150
		80	6000K	24	1	0.0593	553.57	150	0.32	150
		80	6500K	24	1	0.0593	553.57	150	0.32	150
Multiple models	HL- LM021H384W- 3B2C3(Ra2)	80	2700K	3	2	0.0148	553.57	150	1.09	300
		80	3000K	3	2	0.0148	553.57	150	1.09	300
		80	3500K	3	2	0.0148	553.57	150	1.09	300
		80	4000K	3	2	0.0148	553.57	150	1.09	300
		80	5000K	3	2	0.0148	553.57	150	1.09	300
		80	5700K	3	2	0.0148	553.57	150	1.09	300
		80	6000K	3	2	0.0148	553.57	150	1.09	300
		80	6500K	3	2	0.0148	553.57	150	1.09	300
Multiple models	HL- LM021H384W- 5B2C5(Ra2)	80	2700K	5	2	0.0247	553.57	150	0.74	300
		80	3000K	5	2	0.0247	553.57	150	0.74	300
		80	3500K	5	2	0.0247	553.57	150	0.74	300
		80	4000K	5	2	0.0247	553.57	150	0.74	300
		80	5000K	5	2	0.0247	553.57	150	0.74	300
		80	5700K	5	2	0.0247	553.57	150	0.74	300
		80	6000K	5	2	0.0247	553.57	150	0.74	300
		80	6500K	5	2	0.0247	553.57	150	0.74	300
Multiple models	HL- LM021H384W- 7B2C7(Ra2)	80	2700K	7	2	0.0346	553.57	150	0.49	300
		80	3000K	7	2	0.0346	553.57	150	0.49	300
		80	3500K	7	2	0.0346	553.57	150	0.49	300
		80	4000K	7	2	0.0346	553.57	150	0.49	300
		80	5000K	7	2	0.0346	553.57	150	0.49	300
		80	5700K	7	2	0.0346	553.57	150	0.49	300
		80	6000K	7	2	0.0346	553.57	150	0.49	300
		80	6500K	7	2	0.0346	553.57	150	0.49	300
Multiple models	HL- LM021H384W- 10B2C10(Ra2)	80	2700K	10	2	0.0494	553.57	150	0.32	300
		80	3000K	10	2	0.0494	553.57	150	0.32	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	10	2	0.0494	553.57	150	0.32	300
		80	4000K	10	2	0.0494	553.57	150	0.32	300
		80	5000K	10	2	0.0494	553.57	150	0.32	300
		80	5700K	10	2	0.0494	553.57	150	0.32	300
		80	6000K	10	2	0.0494	553.57	150	0.32	300
		80	6500K	10	2	0.0494	553.57	150	0.32	300
Multiple models	HL-LM021H384W-12B2C12(Ra2)	80	2700K	12	2	0.0593	553.57	150	0.32	300
		80	3000K	12	2	0.0593	553.57	150	0.32	300
		80	3500K	12	2	0.0593	553.57	150	0.32	300
		80	4000K	12	2	0.0593	553.57	150	0.32	300
		80	5000K	12	2	0.0593	553.57	150	0.32	300
		80	5700K	12	2	0.0593	553.57	150	0.32	300
		80	6000K	12	2	0.0593	553.57	150	0.32	300
		80	6500K	12	2	0.0593	553.57	150	0.32	300
Multiple models	HL-LM021D90W-3B2C3(Ra2)	80	2700K	3	2	0.0148	316.33	150	0.97	300
		80	3000K	3	2	0.0148	316.33	150	0.97	300
		80	3500K	3	2	0.0148	316.33	150	0.97	300
		80	4000K	3	2	0.0148	316.33	150	0.97	300
		80	5000K	3	2	0.0148	316.33	150	0.97	300
		80	5700K	3	2	0.0148	316.33	150	0.97	300
		80	6000K	3	2	0.0148	316.33	150	0.97	300
		80	6500K	3	2	0.0148	316.33	150	0.97	300
Multiple models	HL-LM021D90W-5B2C5(Ra2)	80	2700K	5	2	0.0247	316.33	150	0.62	300
		80	3000K	5	2	0.0247	316.33	150	0.62	300
		80	3500K	5	2	0.0247	316.33	150	0.62	300
		80	4000K	5	2	0.0247	316.33	150	0.62	300
		80	5000K	5	2	0.0247	316.33	150	0.62	300
		80	5700K	5	2	0.0247	316.33	150	0.62	300
		80	6000K	5	2	0.0247	316.33	150	0.62	300
		80	6500K	5	2	0.0247	316.33	150	0.62	300
Multiple models	HL-LM021D90W-7B2C7(Ra2)	80	2700K	7	2	0.0346	316.33	150	0.37	300
		80	3000K	7	2	0.0346	316.33	150	0.37	300
		80	3500K	7	2	0.0346	316.33	150	0.37	300
		80	4000K	7	2	0.0346	316.33	150	0.37	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	7	2	0.0346	316.33	150	0.37	300
		80	5700K	7	2	0.0346	316.33	150	0.37	300
		80	6000K	7	2	0.0346	316.33	150	0.37	300
		80	6500K	7	2	0.0346	316.33	150	0.37	300
Multiple models	HL-LM021D90W-10B2C10(Ra2)	80	2700K	10	2	0.0494	316.33	150	0.27	300
		80	3000K	10	2	0.0494	316.33	150	0.27	300
		80	3500K	10	2	0.0494	316.33	150	0.27	300
		80	4000K	10	2	0.0494	316.33	150	0.27	300
		80	5000K	10	2	0.0494	316.33	150	0.27	300
		80	5700K	10	2	0.0494	316.33	150	0.27	300
		80	6000K	10	2	0.0494	316.33	150	0.27	300
		80	6500K	10	2	0.0494	316.33	150	0.27	300
Multiple models	HL-LM021D90W-3B1C6(Ra2)	80	2700K	6	1	0.0148	316.33	150	0.97	150
		80	3000K	6	1	0.0148	316.33	150	0.97	150
		80	3500K	6	1	0.0148	316.33	150	0.97	150
		80	4000K	6	1	0.0148	316.33	150	0.97	150
		80	5000K	6	1	0.0148	316.33	150	0.97	150
		80	5700K	6	1	0.0148	316.33	150	0.97	150
		80	6000K	6	1	0.0148	316.33	150	0.97	150
		80	6500K	6	1	0.0148	316.33	150	0.97	150
Multiple models	HL-LM021D90W-5B1C10(Ra2)	80	2700K	10	1	0.0247	316.33	150	0.62	150
		80	3000K	10	1	0.0247	316.33	150	0.62	150
		80	3500K	10	1	0.0247	316.33	150	0.62	150
		80	4000K	10	1	0.0247	316.33	150	0.62	150
		80	5000K	10	1	0.0247	316.33	150	0.62	150
		80	5700K	10	1	0.0247	316.33	150	0.62	150
		80	6000K	10	1	0.0247	316.33	150	0.62	150
		80	6500K	10	1	0.0247	316.33	150	0.62	150
Multiple models	HL-LM021D90W-7B1C14(Ra2)	80	2700K	14	1	0.0346	316.33	150	0.37	150
		80	3000K	14	1	0.0346	316.33	150	0.37	150
		80	3500K	14	1	0.0346	316.33	150	0.37	150
		80	4000K	14	1	0.0346	316.33	150	0.37	150
		80	5000K	14	1	0.0346	316.33	150	0.37	150
		80	5700K	14	1	0.0346	316.33	150	0.37	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	14	1	0.0346	316.33	150	0.37	150
		80	6500K	14	1	0.0346	316.33	150	0.37	150
Multiple models	HL-LM021D90W-10B1C20(Ra2)	80	2700K	20	1	0.0494	316.33	150	0.27	150
		80	3000K	20	1	0.0494	316.33	150	0.27	150
		80	3500K	20	1	0.0494	316.33	150	0.27	150
		80	4000K	20	1	0.0494	316.33	150	0.27	150
		80	5000K	20	1	0.0494	316.33	150	0.27	150
		80	5700K	20	1	0.0494	316.33	150	0.27	150
		80	6000K	20	1	0.0494	316.33	150	0.27	150
		80	6500K	20	1	0.0494	316.33	150	0.27	150
Multiple models	HL-LM021D46W-10B2C10(Ra2)-S	80	2700K	10	2	0.0576	513.73	175	0.28	350
		80	3000K	10	2	0.0576	513.73	175	0.28	350
		80	3500K	10	2	0.0576	513.73	175	0.28	350
		80	4000K	10	2	0.0576	513.73	175	0.28	350
		80	5000K	10	2	0.0576	513.73	175	0.28	350
		80	5700K	10	2	0.0576	513.73	175	0.28	350
		80	6000K	10	2	0.0576	513.73	175	0.28	350
		80	6500K	10	2	0.0576	513.73	175	0.28	350
Multiple models	HL-LM002H384W-7B2C18(Ra2)	80	2700K	18	2	0.0593	426.20	100	0.59	200
		80	3000K	18	2	0.0593	426.20	100	0.59	200
		80	3500K	18	2	0.0593	426.20	100	0.59	200
		80	4000K	18	2	0.0593	426.20	100	0.59	200
		80	5000K	18	2	0.0593	426.20	100	0.59	200
		80	5700K	18	2	0.0593	426.20	100	0.59	200
		80	6000K	18	2	0.0593	426.20	100	0.59	200
		80	6500K	18	2	0.0593	426.20	100	0.59	200
Multiple models	HL-LM079H384W-7B3C12(Ra2)	80	2700K	12	3	0.0939	553.57	150	0.43	450
		80	3000K	12	3	0.0939	553.57	150	0.43	450
		80	3500K	12	3	0.0939	553.57	150	0.43	450
		80	4000K	12	3	0.0939	553.57	150	0.43	450
		80	5000K	12	3	0.0939	553.57	150	0.43	450
		80	5700K	12	3	0.0939	553.57	150	0.43	450
		80	6000K	12	3	0.0939	553.57	150	0.43	450
		80	6500K	12	3	0.0939	553.57	150	0.43	450

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM079H384W-9B4C12(Ra2)	80	2700K	12	4	0.1251	553.57	150	0.26	600
		80	3000K	12	4	0.1251	553.57	150	0.26	600
		80	3500K	12	4	0.1251	553.57	150	0.26	600
		80	4000K	12	4	0.1251	553.57	150	0.26	600
		80	5000K	12	4	0.1251	553.57	150	0.26	600
		80	5700K	12	4	0.1251	553.57	150	0.26	600
		80	6000K	12	4	0.1251	553.57	150	0.26	600
		80	6500K	12	4	0.1251	553.57	150	0.26	600
Multiple models	HL-LM093H384W-7B3C12(Ra2)	80	2700K	12	3	0.0939	553.57	150	0.43	450
		80	3000K	12	3	0.0939	553.57	150	0.43	450
		80	3500K	12	3	0.0939	553.57	150	0.43	450
		80	4000K	12	3	0.0939	553.57	150	0.43	450
		80	5000K	12	3	0.0939	553.57	150	0.43	450
		80	5700K	12	3	0.0939	553.57	150	0.43	450
		80	6000K	12	3	0.0939	553.57	150	0.43	450
		80	6500K	12	3	0.0939	553.57	150	0.43	450
Multiple models	HL-LM093H384W-9B4C12(Ra2)	80	2700K	12	4	0.1251	553.57	150	0.26	600
		80	3000K	12	4	0.1251	553.57	150	0.26	600
		80	3500K	12	4	0.1251	553.57	150	0.26	600
		80	4000K	12	4	0.1251	553.57	150	0.26	600
		80	5000K	12	4	0.1251	553.57	150	0.26	600
		80	5700K	12	4	0.1251	553.57	150	0.26	600
		80	6000K	12	4	0.1251	553.57	150	0.26	600
		80	6500K	12	4	0.1251	553.57	150	0.26	600
Multiple models	HL-LM093H384W-7B2C18(Ra2)	80	2700K	18	2	0.0593	426.20	100	0.59	200
		80	3000K	18	2	0.0593	426.20	100	0.59	200
		80	3500K	18	2	0.0593	426.20	100	0.59	200
		80	4000K	18	2	0.0593	426.20	100	0.59	200
		80	5000K	18	2	0.0593	426.20	100	0.59	200
		80	5700K	18	2	0.0593	426.20	100	0.59	200
		80	6000K	18	2	0.0593	426.20	100	0.59	200
		80	6500K	18	2	0.0593	426.20	100	0.59	200
Multiple models	HL-LM021D46W-6B1C12(Ra2)	80	2700K	12	1	0.0292	435.54	150	0.48	150
		80	3000K	12	1	0.0292	435.54	150	0.48	150

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	12	1	0.0292	435.54	150	0.48	150
		80	4000K	12	1	0.0292	435.54	150	0.48	150
		80	5000K	12	1	0.0292	435.54	150	0.48	150
		80	5700K	12	1	0.0292	435.54	150	0.48	150
		80	6000K	12	1	0.0292	435.54	150	0.48	150
		80	6500K	12	1	0.0292	435.54	150	0.48	150
Multiple models	HL-LM003H384W-20B10C12(Ra2)	80	2700K	12	10	0.1245	442.86	120	0.24	1200
		80	3000K	12	10	0.1245	442.86	120	0.24	1200
		80	3500K	12	10	0.1245	442.86	120	0.24	1200
		80	4000K	12	10	0.1245	442.86	120	0.24	1200
		80	5000K	12	10	0.1245	442.86	120	0.24	1200
		80	5700K	12	10	0.1245	442.86	120	0.24	1200
		80	6000K	12	10	0.1245	442.86	120	0.24	1200
		80	6500K	12	10	0.1245	442.86	120	0.24	1200
Multiple models	HL-LM003H384W-17B8C12(Ra2)	80	2700K	12	8	0.0998	442.86	120	0.45	960
		80	3000K	12	8	0.0998	442.86	120	0.45	960
		80	3500K	12	8	0.0998	442.86	120	0.45	960
		80	4000K	12	8	0.0998	442.86	120	0.45	960
		80	5000K	12	8	0.0998	442.86	120	0.45	960
		80	5700K	12	8	0.0998	442.86	120	0.45	960
		80	6000K	12	8	0.0998	442.86	120	0.45	960
		80	6500K	12	8	0.0998	442.86	120	0.45	960
Multiple models	HL-LM003H384W-15B7C12(Ra2)	80	2700K	12	7	0.0873	442.86	120	0.57	840
		80	3000K	12	7	0.0873	442.86	120	0.57	840
		80	3500K	12	7	0.0873	442.86	120	0.57	840
		80	4000K	12	7	0.0873	442.86	120	0.57	840
		80	5000K	12	7	0.0873	442.86	120	0.57	840
		80	5700K	12	7	0.0873	442.86	120	0.57	840
		80	6000K	12	7	0.0873	442.86	120	0.57	840
		80	6500K	12	7	0.0873	442.86	120	0.57	840
Multiple models	HL-LM003H384W-13B6C12(Ra2)	80	2700K	12	6	0.0748	442.86	120	0.84	720
		80	3000K	12	6	0.0748	442.86	120	0.84	720
		80	3500K	12	6	0.0748	442.86	120	0.84	720
		80	4000K	12	6	0.0748	442.86	120	0.84	720

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	12	6	0.0748	442.86	120	0.84	720
		80	5700K	12	6	0.0748	442.86	120	0.84	720
		80	6000K	12	6	0.0748	442.86	120	0.84	720
		80	6500K	12	6	0.0748	442.86	120	0.84	720
Multiple models	HL-LM003H384W-11B5C12(Ra2)	80	2700K	12	5	0.0624	442.86	120	0.93	600
		80	3000K	12	5	0.0624	442.86	120	0.93	600
		80	3500K	12	5	0.0624	442.86	120	0.93	600
		80	4000K	12	5	0.0624	442.86	120	0.93	600
		80	5000K	12	5	0.0624	442.86	120	0.93	600
		80	5700K	12	5	0.0624	442.86	120	0.93	600
		80	6000K	12	5	0.0624	442.86	120	0.93	600
Multiple models	HL-LM003H384W-9B4C12(Ra2)	80	2700K	12	4	0.0499	442.86	120	0.93	480
		80	3000K	12	4	0.0499	442.86	120	0.93	480
		80	3500K	12	4	0.0499	442.86	120	0.93	480
		80	4000K	12	4	0.0499	442.86	120	0.93	480
		80	5000K	12	4	0.0499	442.86	120	0.93	480
		80	5700K	12	4	0.0499	442.86	120	0.93	480
		80	6000K	12	4	0.0499	442.86	120	0.93	480
		80	6500K	12	4	0.0499	442.86	120	0.93	480
Multiple models	HL-LM003H384W-15B3C24(Ra2)	80	2700K	24	3	0.0748	442.86	120	0.76	360
		80	3000K	24	3	0.0748	442.86	120	0.76	360
		80	3500K	24	3	0.0748	442.86	120	0.76	360
		80	4000K	24	3	0.0748	442.86	120	0.76	360
		80	5000K	24	3	0.0748	442.86	120	0.76	360
		80	5700K	24	3	0.0748	442.86	120	0.76	360
		80	6000K	24	3	0.0748	442.86	120	0.76	360
		80	6500K	24	3	0.0748	442.86	120	0.76	360
Multiple models	HL-LM003H384W-18B3C28(Ra2)	80	2700K	28	3	0.0873	442.86	120	0.57	360
		80	3000K	28	3	0.0873	442.86	120	0.57	360
		80	3500K	28	3	0.0873	442.86	120	0.57	360
		80	4000K	28	3	0.0873	442.86	120	0.57	360
		80	5000K	28	3	0.0873	442.86	120	0.57	360
		80	5700K	28	3	0.0873	442.86	120	0.57	360

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	28	3	0.0873	442.86	120	0.57	360
		80	6500K	28	3	0.0873	442.86	120	0.57	360
Multiple models	HL-LM003H384W-20B1C40(Ra2)	80	2700K	40	1	0.0416	442.86	120	0.89	120
		80	3000K	40	1	0.0416	442.86	120	0.89	120
		80	3500K	40	1	0.0416	442.86	120	0.89	120
		80	4000K	40	1	0.0416	442.86	120	0.89	120
		80	5000K	40	1	0.0416	442.86	120	0.89	120
		80	5700K	40	1	0.0416	442.86	120	0.89	120
		80	6000K	40	1	0.0416	442.86	120	0.89	120
		80	6500K	40	1	0.0416	442.86	120	0.89	120
Multiple models	HL-LM003H384W-20B2C20(Ra2)	80	2700K	20	2	0.0416	442.86	120	0.89	240
		80	3000K	20	2	0.0416	442.86	120	0.89	240
		80	3500K	20	2	0.0416	442.86	120	0.89	240
		80	4000K	20	2	0.0416	442.86	120	0.89	240
		80	5000K	20	2	0.0416	442.86	120	0.89	240
		80	5700K	20	2	0.0416	442.86	120	0.89	240
		80	6000K	20	2	0.0416	442.86	120	0.89	240
		80	6500K	20	2	0.0416	442.86	120	0.89	240
Multiple models	HL-LM003H384W-24B2C24(Ra2)	80	2700K	24	2	0.0499	442.86	120	1.02	240
		80	3000K	24	2	0.0499	442.86	120	1.02	240
		80	3500K	24	2	0.0499	442.86	120	1.02	240
		80	4000K	24	2	0.0499	442.86	120	1.02	240
		80	5000K	24	2	0.0499	442.86	120	1.02	240
		80	5700K	24	2	0.0499	442.86	120	1.02	240
		80	6000K	24	2	0.0499	442.86	120	1.02	240
		80	6500K	24	2	0.0499	442.86	120	1.02	240
Multiple models	HL-LM003H384W-24B2C25(Ra2)	80	2700K	25	2	0.052	442.86	120	1.02	240
		80	3000K	25	2	0.052	442.86	120	1.02	240
		80	3500K	25	2	0.052	442.86	120	1.02	240
		80	4000K	25	2	0.052	442.86	120	1.02	240
		80	5000K	25	2	0.052	442.86	120	1.02	240
		80	5700K	25	2	0.052	442.86	120	1.02	240
		80	6000K	25	2	0.052	442.86	120	1.02	240
		80	6500K	25	2	0.052	442.86	120	1.02	240

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM003H384W-30B2C30(Ra2)	80	2700K	30	2	0.0624	442.86	120	0.83	240
		80	3000K	30	2	0.0624	442.86	120	0.83	240
		80	3500K	30	2	0.0624	442.86	120	0.83	240
		80	4000K	30	2	0.0624	442.86	120	0.83	240
		80	5000K	30	2	0.0624	442.86	120	0.83	240
		80	5700K	30	2	0.0624	442.86	120	0.83	240
		80	6000K	30	2	0.0624	442.86	120	0.83	240
		80	6500K	30	2	0.0624	442.86	120	0.83	240
Multiple models	HL-LM003H384W-30B2C32(Ra2)	80	2700K	32	2	0.0665	442.86	120	0.5	240
		80	3000K	32	2	0.0665	442.86	120	0.5	240
		80	3500K	32	2	0.0665	442.86	120	0.5	240
		80	4000K	32	2	0.0665	442.86	120	0.5	240
		80	5000K	32	2	0.0665	442.86	120	0.5	240
		80	5700K	32	2	0.0665	442.86	120	0.5	240
		80	6000K	32	2	0.0665	442.86	120	0.5	240
		80	6500K	32	2	0.0665	442.86	120	0.5	240
Multiple models	HL-LM003H384W-35B2C35(Ra2)	80	2700K	35	2	0.0728	442.86	120	0.81	240
		80	3000K	35	2	0.0728	442.86	120	0.81	240
		80	3500K	35	2	0.0728	442.86	120	0.81	240
		80	4000K	35	2	0.0728	442.86	120	0.81	240
		80	5000K	35	2	0.0728	442.86	120	0.81	240
		80	5700K	35	2	0.0728	442.86	120	0.81	240
		80	6000K	35	2	0.0728	442.86	120	0.81	240
		80	6500K	35	2	0.0728	442.86	120	0.81	240
Multiple models	HL-LM003H384W-36B2C36(Ra2)	80	2700K	36	2	0.0748	442.86	120	0.79	240
		80	3000K	36	2	0.0748	442.86	120	0.79	240
		80	3500K	36	2	0.0748	442.86	120	0.79	240
		80	4000K	36	2	0.0748	442.86	120	0.79	240
		80	5000K	36	2	0.0748	442.86	120	0.79	240
		80	5700K	36	2	0.0748	442.86	120	0.79	240
		80	6000K	36	2	0.0748	442.86	120	0.79	240
		80	6500K	36	2	0.0748	442.86	120	0.79	240
Multiple models	HL-LM003H384W-40B2C40(Ra2)	80	2700K	40	2	0.0832	442.86	120	0.68	240
		80	3000K	40	2	0.0832	442.86	120	0.68	240

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	40	2	0.0832	442.86	120	0.68	240
		80	4000K	40	2	0.0832	442.86	120	0.68	240
		80	5000K	40	2	0.0832	442.86	120	0.68	240
		80	5700K	40	2	0.0832	442.86	120	0.68	240
		80	6000K	40	2	0.0832	442.86	120	0.68	240
		80	6500K	40	2	0.0832	442.86	120	0.68	240
Multiple models	HL-LM003D87W-16B12C8(Ra2)	80	2700K	8	12	0.0998	179.71	120	0.24	1440
		80	3000K	8	12	0.0998	179.71	120	0.24	1440
		80	3500K	8	12	0.0998	179.71	120	0.24	1440
		80	4000K	8	12	0.0998	179.71	120	0.24	1440
		80	5000K	8	12	0.0998	179.71	120	0.24	1440
		80	5700K	8	12	0.0998	179.71	120	0.24	1440
		80	6000K	8	12	0.0998	179.71	120	0.24	1440
		80	6500K	8	12	0.0998	179.71	120	0.24	1440
Multiple models	HL-LM003D94W-24B10C12(Ra2)	80	2700K	12	10	0.1245	211.36	120	0.24	1200
		80	3000K	12	10	0.1245	211.36	120	0.24	1200
		80	3500K	12	10	0.1245	211.36	120	0.24	1200
		80	4000K	12	10	0.1245	211.36	120	0.24	1200
		80	5000K	12	10	0.1245	211.36	120	0.24	1200
		80	5700K	12	10	0.1245	211.36	120	0.24	1200
		80	6000K	12	10	0.1245	211.36	120	0.24	1200
		80	6500K	12	10	0.1245	211.36	120	0.24	1200
Multiple models	HL-LM066D42W-12B3C12(Ra2)	80	2700K	12	3	0.0427	241.56	120	0.37	360
		80	3000K	12	3	0.0427	241.56	120	0.37	360
		80	3500K	12	3	0.0427	241.56	120	0.37	360
		80	4000K	12	3	0.0427	241.56	120	0.37	360
		80	5000K	12	3	0.0427	241.56	120	0.37	360
		80	5700K	12	3	0.0427	241.56	120	0.37	360
		80	6000K	12	3	0.0427	241.56	120	0.37	360
		80	6500K	12	3	0.0427	241.56	120	0.36	360
Multiple models	HL-LM066D94W-12B3C12(Ra2)	80	2700K	12	3	0.0427	211.36	120	0.36	360
		80	3000K	12	3	0.0427	211.36	120	0.36	360
		80	3500K	12	3	0.0427	211.36	120	0.36	360
		80	4000K	12	3	0.0427	211.36	120	0.36	360

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	12	3	0.0427	211.36	120	0.36	360
		80	5700K	12	3	0.0427	211.36	120	0.36	360
		80	6000K	12	3	0.0427	211.36	120	0.36	360
		80	6500K	12	3	0.0427	211.36	120	0.36	360
Multiple models	HL-LM066D42W-18B4C12(Ra2)	80	2700K	12	4	0.0569	241.56	120	0.27	480
		80	3000K	12	4	0.0569	241.56	120	0.27	480
		80	3500K	12	4	0.0569	241.56	120	0.27	480
		80	4000K	12	4	0.0569	241.56	120	0.27	480
		80	5000K	12	4	0.0569	241.56	120	0.27	480
		80	5700K	12	4	0.0569	241.56	120	0.27	480
		80	6000K	12	4	0.0569	241.56	120	0.27	480
		80	6500K	12	4	0.0569	241.56	120	0.27	480
Multiple models	HL-LM066D94W-18B4C12(Ra2)	80	2700K	12	4	0.0569	211.36	120	0.26	480
		80	3000K	12	4	0.0569	211.36	120	0.26	480
		80	3500K	12	4	0.0569	211.36	120	0.26	480
		80	4000K	12	4	0.0569	211.36	120	0.26	480
		80	5000K	12	4	0.0569	211.36	120	0.26	480
		80	5700K	12	4	0.0569	211.36	120	0.26	480
		80	6000K	12	4	0.0569	211.36	120	0.26	480
		80	6500K	12	4	0.0569	211.36	120	0.26	480
Multiple models	HL-LM067D42W-24B5C12(Ra2)	80	2700K	12	5	0.0711	241.56	120	0.31	600
		80	3000K	12	5	0.0711	241.56	120	0.31	600
		80	3500K	12	5	0.0711	241.56	120	0.31	600
		80	4000K	12	5	0.0711	241.56	120	0.31	600
		80	5000K	12	5	0.0711	241.56	120	0.31	600
		80	5700K	12	5	0.0711	241.56	120	0.31	600
		80	6000K	12	5	0.0711	241.56	120	0.31	600
		80	6500K	12	5	0.0711	241.56	120	0.31	600
Multiple models	HL-LM067D94W-24B5C12(Ra2)	80	2700K	12	5	0.0711	211.36	120	0.3	600
		80	3000K	12	5	0.0711	211.36	120	0.3	600
		80	3500K	12	5	0.0711	211.36	120	0.3	600
		80	4000K	12	5	0.0711	211.36	120	0.3	600
		80	5000K	12	5	0.0711	211.36	120	0.3	600
		80	5700K	12	5	0.0711	211.36	120	0.3	600

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	12	5	0.0711	211.36	120	0.3	600
		80	6500K	12	5	0.0711	211.36	120	0.3	600
Multiple models	HL-LM068D42W-24B5C12(Ra2)	80	2700K	12	5	0.045	241.56	120	0.5	600
		80	3000K	12	5	0.045	241.56	120	0.5	600
		80	3500K	12	5	0.045	241.56	120	0.5	600
		80	4000K	12	5	0.045	241.56	120	0.5	600
		80	5000K	12	5	0.045	241.56	120	0.5	600
		80	5700K	12	5	0.045	241.56	120	0.5	600
		80	6000K	12	5	0.045	241.56	120	0.5	600
		80	6500K	12	5	0.045	241.56	120	0.5	600
Multiple models	HL-LM068D94W-24B5C12(Ra2)	80	2700K	12	5	0.045	211.36	120	0.49	600
		80	3000K	12	5	0.045	211.36	120	0.49	600
		80	3500K	12	5	0.045	211.36	120	0.49	600
		80	4000K	12	5	0.045	211.36	120	0.49	600
		80	5000K	12	5	0.045	211.36	120	0.49	600
		80	5700K	12	5	0.045	211.36	120	0.49	600
		80	6000K	12	5	0.045	211.36	120	0.49	600
		80	6500K	12	5	0.045	211.36	120	0.49	600
Multiple models	HL-LM068D42W-32B8C12(Ra2)	80	2700K	12	8	0.072	241.56	120	0.27	960
		80	3000K	12	8	0.072	241.56	120	0.27	960
		80	3500K	12	8	0.072	241.56	120	0.27	960
		80	4000K	12	8	0.072	241.56	120	0.27	960
		80	5000K	12	8	0.072	241.56	120	0.27	960
		80	5700K	12	8	0.072	241.56	120	0.27	960
		80	6000K	12	8	0.072	241.56	120	0.27	960
		80	6500K	12	8	0.072	241.56	120	0.27	960
Multiple models	HL-LM068D94W-32B8C12(Ra2)	80	2700K	12	8	0.072	211.36	120	0.26	960
		80	3000K	12	8	0.072	211.36	120	0.26	960
		80	3500K	12	8	0.072	211.36	120	0.26	960
		80	4000K	12	8	0.072	211.36	120	0.26	960
		80	5000K	12	8	0.072	211.36	120	0.26	960
		80	5700K	12	8	0.072	211.36	120	0.26	960
		80	6000K	12	8	0.072	211.36	120	0.26	960
		80	6500K	12	8	0.072	211.36	120	0.26	960

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM069D42W-32B8C12(Ra2)	80	2700K	12	8	0.072	241.56	120	0.4	960
		80	3000K	12	8	0.072	241.56	120	0.4	960
		80	3500K	12	8	0.072	241.56	120	0.4	960
		80	4000K	12	8	0.072	241.56	120	0.4	960
		80	5000K	12	8	0.072	241.56	120	0.4	960
		80	5700K	12	8	0.072	241.56	120	0.4	960
		80	6000K	12	8	0.072	241.56	120	0.4	960
		80	6500K	12	8	0.072	241.56	120	0.4	960
Multiple models	HL-LM069D94W-32B8C12(Ra2)	80	2700K	12	8	0.072	211.36	120	0.39	960
		80	3000K	12	8	0.072	211.36	120	0.39	960
		80	3500K	12	8	0.072	211.36	120	0.39	960
		80	4000K	12	8	0.072	211.36	120	0.39	960
		80	5000K	12	8	0.072	211.36	120	0.39	960
		80	5700K	12	8	0.072	211.36	120	0.39	960
		80	6000K	12	8	0.072	211.36	120	0.39	960
		80	6500K	12	8	0.072	211.36	120	0.39	960
Multiple models	HL-LM003D42W-24B10C12(Ra2)	80	2700K	12	10	0.1245	241.56	120	0.25	1200
		80	3000K	12	10	0.1245	241.56	120	0.25	1200
		80	3500K	12	10	0.1245	241.56	120	0.25	1200
		80	4000K	12	10	0.1245	241.56	120	0.25	1200
		80	5000K	12	10	0.1245	241.56	120	0.25	1200
		80	5700K	12	10	0.1245	241.56	120	0.25	1200
		80	6000K	12	10	0.1245	241.56	120	0.25	1200
		80	6500K	12	10	0.1245	241.56	120	0.25	1200
Multiple models	HL-LMH03D90W-20B10C12(Ra2)	80	2700K	12	10	0.1197	260.50	120	0.39	1200
		80	3000K	12	10	0.1197	260.50	120	0.39	1200
		80	3500K	12	10	0.1197	260.50	120	0.39	1200
		80	4000K	12	10	0.1197	260.50	120	0.39	1200
		80	5000K	12	10	0.1197	260.50	120	0.39	1200
		80	5700K	12	10	0.1197	260.50	120	0.39	1200
		80	6000K	12	10	0.1197	260.50	120	0.39	1200
		80	6500K	12	10	0.1197	260.50	120	0.39	1200
Multiple models	HL-LMH03D90W-17B8C12(Ra2)	80	2700K	12	8	0.0957	260.50	120	0.38	960
		80	3000K	12	8	0.0957	260.50	120	0.38	960

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	12	8	0.0957	260.50	120	0.38	960
		80	4000K	12	8	0.0957	260.50	120	0.38	960
		80	5000K	12	8	0.0957	260.50	120	0.38	960
		80	5700K	12	8	0.0957	260.50	120	0.38	960
		80	6000K	12	8	0.0957	260.50	120	0.38	960
		80	6500K	12	8	0.0957	260.50	120	0.38	960
Multiple models	HL-LMH03D90W-15B7C12(Ra2)	80	2700K	12	7	0.0838	260.50	120	0.48	840
		80	3000K	12	7	0.0838	260.50	120	0.48	840
		80	3500K	12	7	0.0838	260.50	120	0.48	840
		80	4000K	12	7	0.0838	260.50	120	0.48	840
		80	5000K	12	7	0.0838	260.50	120	0.48	840
		80	5700K	12	7	0.0838	260.50	120	0.48	840
		80	6000K	12	7	0.0838	260.50	120	0.48	840
		80	6500K	12	7	0.0838	260.50	120	0.48	840
Multiple models	HL-LMH03D90W-13B6C12(Ra2)	80	2700K	12	6	0.0718	260.50	120	0.65	720
		80	3000K	12	6	0.0718	260.50	120	0.65	720
		80	3500K	12	6	0.0718	260.50	120	0.65	720
		80	4000K	12	6	0.0718	260.50	120	0.65	720
		80	5000K	12	6	0.0718	260.50	120	0.65	720
		80	5700K	12	6	0.0718	260.50	120	0.65	720
		80	6000K	12	6	0.0718	260.50	120	0.65	720
		80	6500K	12	6	0.0718	260.50	120	0.65	720
Multiple models	HL-LMH03D90W-11B5C12(Ra2)	80	2700K	12	5	0.0598	260.50	120	0.67	600
		80	3000K	12	5	0.0598	260.50	120	0.67	600
		80	3500K	12	5	0.0598	260.50	120	0.67	600
		80	4000K	12	5	0.0598	260.50	120	0.67	600
		80	5000K	12	5	0.0598	260.50	120	0.67	600
		80	5700K	12	5	0.0598	260.50	120	0.67	600
		80	6000K	12	5	0.0598	260.50	120	0.67	600
		80	6500K	12	5	0.0598	260.50	120	0.67	600
Multiple models	HL-LM003D94W-20B10C12(Ra2)	80	2700K	12	10	0.118	211.36	120	0.26	1200
		80	3000K	12	10	0.118	211.36	120	0.26	1200
		80	3500K	12	10	0.118	211.36	120	0.26	1200
		80	4000K	12	10	0.118	211.36	120	0.26	1200

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	12	10	0.118	211.36	120	0.26	1200
		80	5700K	12	10	0.118	211.36	120	0.26	1200
		80	6000K	12	10	0.118	211.36	120	0.26	1200
		80	6500K	12	10	0.118	211.36	120	0.26	1200
Multiple models	HL-LM003D94W-17B8C12(Ra2)	80	2700K	12	8	0.0944	211.36	120	0.4	960
		80	3000K	12	8	0.0944	211.36	120	0.4	960
		80	3500K	12	8	0.0944	211.36	120	0.4	960
		80	4000K	12	8	0.0944	211.36	120	0.4	960
		80	5000K	12	8	0.0944	211.36	120	0.4	960
		80	5700K	12	8	0.0944	211.36	120	0.4	960
		80	6000K	12	8	0.0944	211.36	120	0.4	960
		80	6500K	12	8	0.0944	211.36	120	0.4	960
Multiple models	HL-LM003D94W-15B7C12(Ra2)	80	2700K	12	7	0.0826	211.36	120	0.36	840
		80	3000K	12	7	0.0826	211.36	120	0.36	840
		80	3500K	12	7	0.0826	211.36	120	0.36	840
		80	4000K	12	7	0.0826	211.36	120	0.36	840
		80	5000K	12	7	0.0826	211.36	120	0.36	840
		80	5700K	12	7	0.0826	211.36	120	0.36	840
		80	6000K	12	7	0.0826	211.36	120	0.36	840
		80	6500K	12	7	0.0826	211.36	120	0.36	840
Multiple models	HL-LM003D94W-13B6C12(Ra2)	80	2700K	12	6	0.0708	211.36	120	0.63	720
		80	3000K	12	6	0.0708	211.36	120	0.63	720
		80	3500K	12	6	0.0708	211.36	120	0.63	720
		80	4000K	12	6	0.0708	211.36	120	0.63	720
		80	5000K	12	6	0.0708	211.36	120	0.63	720
		80	5700K	12	6	0.0708	211.36	120	0.63	720
		80	6000K	12	6	0.0708	211.36	120	0.63	720
		80	6500K	12	6	0.0708	211.36	120	0.63	720
Multiple models	HL-LM003D94W-11B5C12(Ra2)	80	2700K	12	5	0.059	211.36	120	0.51	600
		80	3000K	12	5	0.059	211.36	120	0.51	600
		80	3500K	12	5	0.059	211.36	120	0.51	600
		80	4000K	12	5	0.059	211.36	120	0.51	600
		80	5000K	12	5	0.059	211.36	120	0.51	600
		80	5700K	12	5	0.059	211.36	120	0.51	600

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	12	5	0.059	211.36	120	0.51	600
		80	6500K	12	5	0.059	211.36	120	0.51	600
Multiple models	HL-LM003D42W-20B10C12(Ra2)	80	2700K	12	10	0.1197	241.56	120	0.39	1200
		80	3000K	12	10	0.1197	241.56	120	0.39	1200
		80	3500K	12	10	0.1197	241.56	120	0.39	1200
		80	4000K	12	10	0.1197	241.56	120	0.39	1200
		80	5000K	12	10	0.1197	241.56	120	0.39	1200
		80	5700K	12	10	0.1197	241.56	120	0.39	1200
		80	6000K	12	10	0.1197	241.56	120	0.39	1200
		80	6500K	12	10	0.1197	241.56	120	0.39	1200
Multiple models	HL-LM003D42W-17B8C12(Ra2)	80	2700K	12	8	0.0957	241.56	120	0.38	960
		80	3000K	12	8	0.0957	241.56	120	0.38	960
		80	3500K	12	8	0.0957	241.56	120	0.38	960
		80	4000K	12	8	0.0957	241.56	120	0.38	960
		80	5000K	12	8	0.0957	241.56	120	0.38	960
		80	5700K	12	8	0.0957	241.56	120	0.38	960
		80	6000K	12	8	0.0957	241.56	120	0.38	960
		80	6500K	12	8	0.0957	241.56	120	0.38	960
Multiple models	HL-LM003D42W-15B7C12(Ra2)	80	2700K	12	7	0.0838	241.56	120	0.48	840
		80	3000K	12	7	0.0838	241.56	120	0.48	840
		80	3500K	12	7	0.0838	241.56	120	0.48	840
		80	4000K	12	7	0.0838	241.56	120	0.48	840
		80	5000K	12	7	0.0838	241.56	120	0.48	840
		80	5700K	12	7	0.0838	241.56	120	0.48	840
		80	6000K	12	7	0.0838	241.56	120	0.48	840
		80	6500K	12	7	0.0838	241.56	120	0.48	840
Multiple models	HL-LM003D42W-13B6C12(Ra2)	80	2700K	12	6	0.0718	241.56	120	0.65	720
		80	3000K	12	6	0.0718	241.56	120	0.65	720
		80	3500K	12	6	0.0718	241.56	120	0.65	720
		80	4000K	12	6	0.0718	241.56	120	0.65	720
		80	5000K	12	6	0.0718	241.56	120	0.65	720
		80	5700K	12	6	0.0718	241.56	120	0.65	720
		80	6000K	12	6	0.0718	241.56	120	0.65	720
		80	6500K	12	6	0.0718	241.56	120	0.65	720

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM003D42W-11B5C12(Ra2)	80	2700K	12	5	0.0598	241.56	120	0.67	600
		80	3000K	12	5	0.0598	241.56	120	0.67	600
		80	3500K	12	5	0.0598	241.56	120	0.67	600
		80	4000K	12	5	0.0598	241.56	120	0.67	600
		80	5000K	12	5	0.0598	241.56	120	0.67	600
		80	5700K	12	5	0.0598	241.56	120	0.67	600
		80	6000K	12	5	0.0598	241.56	120	0.67	600
		80	6500K	12	5	0.0598	241.56	120	0.67	600
Multiple models	HL-LML03H421W-20B10C12(Ra2)	80	2700K	12	10	0.0698	401.85	70	0.56	700
		80	3000K	12	10	0.0698	401.85	70	0.56	700
		80	3500K	12	10	0.0698	401.85	70	0.56	700
		80	4000K	12	10	0.0698	401.85	70	0.56	700
		80	5000K	12	10	0.0698	401.85	70	0.56	700
		80	5700K	12	10	0.0698	401.85	70	0.56	700
		80	6000K	12	10	0.0698	401.85	70	0.56	700
		80	6500K	12	10	0.0698	401.85	70	0.56	700
Multiple models	HL-LML03H421W-17B8C12(Ra2)	80	2700K	12	8	0.0558	401.85	70	0.56	560
		80	3000K	12	8	0.0558	401.85	70	0.56	560
		80	3500K	12	8	0.0558	401.85	70	0.56	560
		80	4000K	12	8	0.0558	401.85	70	0.56	560
		80	5000K	12	8	0.0558	401.85	70	0.56	560
		80	5700K	12	8	0.0558	401.85	70	0.56	560
		80	6000K	12	8	0.0558	401.85	70	0.56	560
		80	6500K	12	8	0.0558	401.85	70	0.56	560
Multiple models	HL-LML03H421W-15B7C12(Ra2)	80	2700K	12	7	0.0489	401.85	70	0.69	490
		80	3000K	12	7	0.0489	401.85	70	0.69	490
		80	3500K	12	7	0.0489	401.85	70	0.69	490
		80	4000K	12	7	0.0489	401.85	70	0.69	490
		80	5000K	12	7	0.0489	401.85	70	0.69	490
		80	5700K	12	7	0.0489	401.85	70	0.69	490
		80	6000K	12	7	0.0489	401.85	70	0.69	490
		80	6500K	12	7	0.0489	401.85	70	0.69	490
Multiple models	HL-LML03H421W-13B6C12(Ra2)	80	2700K	12	6	0.0419	401.85	70	0.94	420
		80	3000K	12	6	0.0419	401.85	70	0.94	420

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	12	6	0.0419	401.85	70	0.94	420
		80	4000K	12	6	0.0419	401.85	70	0.94	420
		80	5000K	12	6	0.0419	401.85	70	0.94	420
		80	5700K	12	6	0.0419	401.85	70	0.94	420
		80	6000K	12	6	0.0419	401.85	70	0.94	420
		80	6500K	12	6	0.0419	401.85	70	0.94	420
Multiple models	HL-LMH03D90W-11B5C12(Ra2)	80	2700K	12	5	0.0615	260.50	120	0.84	600
		80	3000K	12	5	0.0615	260.50	120	0.84	600
		80	3500K	12	5	0.0615	260.50	120	0.84	600
		80	4000K	12	5	0.0615	260.50	120	0.84	600
		80	5000K	12	5	0.0615	260.50	120	0.84	600
		80	5700K	12	5	0.0615	260.50	120	0.84	600
		80	6000K	12	5	0.0615	260.50	120	0.84	600
		80	6500K	12	5	0.0615	260.50	120	0.84	600
Multiple models	HL-LM022H384W-15B2C15(Ra2)	80	2700K	15	2	0.0299	442.86	120	0.56	240
		80	3000K	15	2	0.0299	442.86	120	0.56	240
		80	3500K	15	2	0.0299	442.86	120	0.56	240
		80	4000K	15	2	0.0299	442.86	120	0.56	240
		80	5000K	15	2	0.0299	442.86	120	0.56	240
		80	5700K	15	2	0.0299	442.86	120	0.56	240
		80	6000K	15	2	0.0299	442.86	120	0.56	240
		80	6500K	15	2	0.0299	442.86	120	0.56	240
Multiple models	HL-LM022H384W-18B2C18(Ra2)	80	2700K	18	2	0.0359	442.86	120	0.55	240
		80	3000K	18	2	0.0359	442.86	120	0.55	240
		80	3500K	18	2	0.0359	442.86	120	0.55	240
		80	4000K	18	2	0.0359	442.86	120	0.55	240
		80	5000K	18	2	0.0359	442.86	120	0.55	240
		80	5700K	18	2	0.0359	442.86	120	0.55	240
		80	6000K	18	2	0.0359	442.86	120	0.55	240
		80	6500K	18	2	0.0359	442.86	120	0.55	240
Multiple models	HL-LM022H384W-20B2C20(Ra2)	80	2700K	20	2	0.0399	442.86	120	0.5	240
		80	3000K	20	2	0.0399	442.86	120	0.5	240
		80	3500K	20	2	0.0399	442.86	120	0.5	240
		80	4000K	20	2	0.0399	442.86	120	0.5	240

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	20	2	0.0399	442.86	120	0.5	240
		80	5700K	20	2	0.0399	442.86	120	0.5	240
		80	6000K	20	2	0.0399	442.86	120	0.5	240
		80	6500K	20	2	0.0399	442.86	120	0.5	240
Multiple models	HL-LM022H384W-15B3C12(Ra2)	80	2700K	12	3	0.0359	442.86	120	0.5	360
		80	3000K	12	3	0.0359	442.86	120	0.5	360
		80	3500K	12	3	0.0359	442.86	120	0.5	360
		80	4000K	12	3	0.0359	442.86	120	0.5	360
		80	5000K	12	3	0.0359	442.86	120	0.5	360
		80	5700K	12	3	0.0359	442.86	120	0.5	360
		80	6000K	12	3	0.0359	442.86	120	0.5	360
Multiple models	HL-LM022D90W-15B2C15(Ra2)	80	2700K	15	2	0.0374	316.33	150	0.45	300
		80	3000K	15	2	0.0374	316.33	150	0.45	300
		80	3500K	15	2	0.0374	316.33	150	0.45	300
		80	4000K	15	2	0.0374	316.33	150	0.45	300
		80	5000K	15	2	0.0374	316.33	150	0.45	300
		80	5700K	15	2	0.0374	316.33	150	0.45	300
		80	6000K	15	2	0.0374	316.33	150	0.45	300
		80	6500K	15	2	0.0374	316.33	150	0.45	300
Multiple models	HL-LM022D90W-18B2C18(Ra2)	80	2700K	18	2	0.0449	316.33	150	0.44	300
		80	3000K	18	2	0.0449	316.33	150	0.44	300
		80	3500K	18	2	0.0449	316.33	150	0.44	300
		80	4000K	18	2	0.0449	316.33	150	0.44	300
		80	5000K	18	2	0.0449	316.33	150	0.44	300
		80	5700K	18	2	0.0449	316.33	150	0.44	300
		80	6000K	18	2	0.0449	316.33	150	0.44	300
		80	6500K	18	2	0.0449	316.33	150	0.44	300
Multiple models	HL-LM022D90W-20B2C20(Ra2)	80	2700K	20	2	0.0499	316.33	150	0.43	300
		80	3000K	20	2	0.0499	316.33	150	0.43	300
		80	3500K	20	2	0.0499	316.33	150	0.43	300
		80	4000K	20	2	0.0499	316.33	150	0.43	300
		80	5000K	20	2	0.0499	316.33	150	0.43	300
		80	5700K	20	2	0.0499	316.33	150	0.43	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	20	2	0.0499	316.33	150	0.43	300
		80	6500K	20	2	0.0499	316.33	150	0.43	300
Multiple models	HL-LM022D90W-15B3C12(Ra2)	80	2700K	12	3	0.0449	316.33	150	0.43	450
		80	3000K	12	3	0.0449	316.33	150	0.43	450
		80	3500K	12	3	0.0449	316.33	150	0.43	450
		80	4000K	12	3	0.0449	316.33	150	0.43	450
		80	5000K	12	3	0.0449	316.33	150	0.43	450
		80	5700K	12	3	0.0449	316.33	150	0.43	450
		80	6000K	12	3	0.0449	316.33	150	0.43	450
		80	6500K	12	3	0.0449	316.33	150	0.43	450
Multiple models	HL-LM022D90W-30B1C48(Ra2)	80	2700K	48	1	0.0798	421.77	200	0.25	200
		80	3000K	48	1	0.0798	421.77	200	0.25	200
		80	3500K	48	1	0.0798	421.77	200	0.25	200
		80	4000K	48	1	0.0798	421.77	200	0.25	200
		80	5000K	48	1	0.0798	421.77	200	0.25	200
		80	5700K	48	1	0.0798	421.77	200	0.25	200
		80	6000K	48	1	0.0798	421.77	200	0.25	200
		80	6500K	48	1	0.0798	421.77	200	0.25	200
Multiple models	HL-LM023H384W-24B2C24(Ra2)	80	2700K	24	2	0.0479	442.86	120	0.72	240
		80	3000K	24	2	0.0479	442.86	120	0.72	240
		80	3500K	24	2	0.0479	442.86	120	0.72	240
		80	4000K	24	2	0.0479	442.86	120	0.72	240
		80	5000K	24	2	0.0479	442.86	120	0.72	240
		80	5700K	24	2	0.0479	442.86	120	0.72	240
		80	6000K	24	2	0.0479	442.86	120	0.72	240
		80	6500K	24	2	0.0479	442.86	120	0.66	240
Multiple models	HL-LM023H384W-30B2C30(Ra2)	80	2700K	30	2	0.0598	442.86	120	0.66	240
		80	3000K	30	2	0.0598	442.86	120	0.66	240
		80	3500K	30	2	0.0598	442.86	120	0.66	240
		80	4000K	30	2	0.0598	442.86	120	0.66	240
		80	5000K	30	2	0.0598	442.86	120	0.66	240
		80	5700K	30	2	0.0598	442.86	120	0.66	240
		80	6000K	30	2	0.0598	442.86	120	0.66	240
		80	6500K	30	2	0.0598	442.86	120	0.66	240

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM023H384W-36B2C36(Ra2)	80	2700K	36	2	0.0718	442.86	120	0.56	240
		80	3000K	36	2	0.0718	442.86	120	0.56	240
		80	3500K	36	2	0.0718	442.86	120	0.56	240
		80	4000K	36	2	0.0718	442.86	120	0.56	240
		80	5000K	36	2	0.0718	442.86	120	0.56	240
		80	5700K	36	2	0.0718	442.86	120	0.56	240
		80	6000K	36	2	0.0718	442.86	120	0.56	240
		80	6500K	36	2	0.0718	442.86	120	0.56	240
Multiple models	HL-LM023D90W-24B2C24(Ra2)	80	2700K	24	2	0.0598	316.33	150	0.61	300
		80	3000K	24	2	0.0598	316.33	150	0.61	300
		80	3500K	24	2	0.0598	316.33	150	0.61	300
		80	4000K	24	2	0.0598	316.33	150	0.61	300
		80	5000K	24	2	0.0598	316.33	150	0.61	300
		80	5700K	24	2	0.0598	316.33	150	0.61	300
		80	6000K	24	2	0.0598	316.33	150	0.61	300
		80	6500K	24	2	0.0598	316.33	150	0.61	300
Multiple models	HL-LM023D90W-30B2C30(Ra2)	80	2700K	30	2	0.0748	316.33	150	0.61	300
		80	3000K	30	2	0.0748	316.33	150	0.61	300
		80	3500K	30	2	0.0748	316.33	150	0.61	300
		80	4000K	30	2	0.0748	316.33	150	0.61	300
		80	5000K	30	2	0.0748	316.33	150	0.61	300
		80	5700K	30	2	0.0748	316.33	150	0.61	300
		80	6000K	30	2	0.0748	316.33	150	0.61	300
		80	6500K	30	2	0.0748	316.33	150	0.61	300
Multiple models	HL-LM023D90W-36B2C36(Ra2)	80	2700K	36	2	0.0898	316.33	150	0.45	300
		80	3000K	36	2	0.0898	316.33	150	0.45	300
		80	3500K	36	2	0.0898	316.33	150	0.45	300
		80	4000K	36	2	0.0898	316.33	150	0.45	300
		80	5000K	36	2	0.0898	316.33	150	0.45	300
		80	5700K	36	2	0.0898	316.33	150	0.45	300
		80	6000K	36	2	0.0898	316.33	150	0.45	300
		80	6500K	36	2	0.0898	316.33	150	0.45	300
Multiple models	HL-LM004H384W-40B18C12(Ra2)	80	2700K	12	18	0.1025	442.86	120	0.35	2160
		80	3000K	12	18	0.1025	442.86	120	0.35	2160

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	12	18	0.1025	442.86	120	0.35	2160
		80	4000K	12	18	0.1025	442.86	120	0.35	2160
		80	5000K	12	18	0.1025	442.86	120	0.35	2160
		80	5700K	12	18	0.1025	442.86	120	0.35	2160
		80	6000K	12	18	0.1025	442.86	120	0.35	2160
		80	6500K	12	18	0.1025	442.86	120	0.35	2160
Multiple models	HL-LM004H384W-35B16C12(Ra2)	80	2700K	12	16	0.0911	442.86	120	0.45	1920
		80	3000K	12	16	0.0911	442.86	120	0.45	1920
		80	3500K	12	16	0.0911	442.86	120	0.45	1920
		80	4000K	12	16	0.0911	442.86	120	0.45	1920
		80	5000K	12	16	0.0911	442.86	120	0.45	1920
		80	5700K	12	16	0.0911	442.86	120	0.45	1920
		80	6000K	12	16	0.0911	442.86	120	0.45	1920
		80	6500K	12	16	0.0911	442.86	120	0.45	1920
Multiple models	HL-LM004H384W-20B10C12(Ra2)	80	2700K	12	10	0.0735	442.86	120	0.62	1200
		80	3000K	12	10	0.0735	442.86	120	0.62	1200
		80	3500K	12	10	0.0735	442.86	120	0.62	1200
		80	4000K	12	10	0.0735	442.86	120	0.62	1200
		80	5000K	12	10	0.0735	442.86	120	0.62	1200
		80	6000K	12	10	0.0735	442.86	120	0.62	1200
		80	5700K	12	10	0.0735	442.86	120	0.62	1200
		80	6500K	12	10	0.0735	442.86	120	0.62	1200
Multiple models	HL-LM004H384W-25B12C12(Ra2)	80	2700K	12	12	0.0854	442.86	120	0.47	1440
		80	3000K	12	12	0.0854	442.86	120	0.47	1440
		80	3500K	12	12	0.0854	442.86	120	0.47	1440
		80	4000K	12	12	0.0854	442.86	120	0.47	1440
		80	5000K	12	12	0.0854	442.86	120	0.47	1440
		80	5700K	12	12	0.0854	442.86	120	0.47	1440
		80	6000K	12	12	0.0854	442.86	120	0.47	1440
		80	6500K	12	12	0.0854	442.86	120	0.47	1440
Multiple models	HL-LM004H384W-30B14C12(Ra2)	80	2700K	12	14	0.0996	442.86	120	0.48	1680
		80	3000K	12	14	0.0996	442.86	120	0.48	1680
		80	3500K	12	14	0.0996	442.86	120	0.48	1680
		80	4000K	12	14	0.0996	442.86	120	0.48	1680

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	12	14	0.0996	442.86	120	0.48	1680
		80	5700K	12	14	0.0996	442.86	120	0.48	1680
		80	6000K	12	14	0.0996	442.86	120	0.48	1680
		80	6500K	12	14	0.0996	442.86	120	0.48	1680
Multiple models	HL-LM004H384W-25B7C18(Ra2)	80	2700K	18	7	0.0598	442.86	120	1.08	840
		80	3000K	18	7	0.0598	442.86	120	1.08	840
		80	3500K	18	7	0.0598	442.86	120	1.08	840
		80	4000K	18	7	0.0598	442.86	120	1.08	840
		80	5000K	18	7	0.0598	442.86	120	1.08	840
		80	5700K	18	7	0.0598	442.86	120	1.08	840
		80	6000K	18	7	0.0598	442.86	120	1.08	840
Multiple models	HL-LM004H384W-17B8C12(Ra2)	80	2700K	12	8	0.0588	442.86	120	1.08	960
		80	3000K	12	8	0.0588	442.86	120	1.08	960
		80	3500K	12	8	0.0588	442.86	120	1.08	960
		80	4000K	12	8	0.0588	442.86	120	1.08	960
		80	5000K	12	8	0.0588	442.86	120	1.08	960
		80	5700K	12	8	0.0588	442.86	120	1.08	960
		80	6000K	12	8	0.0588	442.86	120	1.08	960
		80	6500K	12	8	0.0588	442.86	120	1.08	960
Multiple models	HL-LM004H384W-50B2C54(Ra2)	80	2700K	54	2	0.0661	442.86	120	0.89	240
		80	3000K	54	2	0.0661	442.86	120	0.89	240
		80	3500K	54	2	0.0661	442.86	120	0.89	240
		80	4000K	54	2	0.0661	442.86	120	0.89	240
		80	5000K	54	2	0.0661	442.86	120	0.89	240
		80	5700K	54	2	0.0661	442.86	120	0.89	240
		80	6000K	54	2	0.0661	442.86	120	0.89	240
		80	6500K	54	2	0.0661	442.86	120	0.89	240
Multiple models	HL-LM004H384W-40B2C42(Ra2)	80	2700K	42	2	0.0498	442.86	120	1.24	240
		80	3000K	42	2	0.0498	442.86	120	1.24	240
		80	3500K	42	2	0.0498	442.86	120	1.24	240
		80	4000K	42	2	0.0498	442.86	120	1.24	240
		80	5000K	42	2	0.0498	442.86	120	1.24	240
		80	5700K	42	2	0.0498	442.86	120	1.24	240

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	42	2	0.0498	442.86	120	1.24	240
		80	6500K	42	2	0.0498	442.86	120	1.24	240
Multiple models	HL-LM004H384W-24B2C26(Ra2)	80	2700K	26	2	0.0318	442.86	120	1.35	240
		80	3000K	26	2	0.0318	442.86	120	1.35	240
		80	3500K	26	2	0.0318	442.86	120	1.35	240
		80	4000K	26	2	0.0318	442.86	120	1.35	240
		80	5000K	26	2	0.0318	442.86	120	1.35	240
		80	5700K	26	2	0.0318	442.86	120	1.35	240
		80	6000K	26	2	0.0318	442.86	120	1.35	240
		80	6500K	26	2	0.0318	442.86	120	1.35	240
Multiple models	HL-LM004H384W-30B4C15(Ra2)	80	2700K	15	4	0.0367	442.86	120	0.89	480
		80	3000K	15	4	0.0367	442.86	120	0.89	480
		80	3500K	15	4	0.0367	442.86	120	0.89	480
		80	4000K	15	4	0.0367	442.86	120	0.89	480
		80	5000K	15	4	0.0367	442.86	120	0.89	480
		80	5700K	15	4	0.0367	442.86	120	0.89	480
		80	6000K	15	4	0.0367	442.86	120	0.89	480
		80	6500K	15	4	0.0367	442.86	120	0.89	480
Multiple models	HL-LM004H384W-40B6C14(Ra2)	80	2700K	14	6	0.0318	442.86	120	1.35	720
		80	3000K	14	6	0.0318	442.86	120	1.35	720
		80	3500K	14	6	0.0318	442.86	120	1.35	720
		80	4000K	14	6	0.0318	442.86	120	1.35	720
		80	5000K	14	6	0.0318	442.86	120	1.35	720
		80	5700K	14	6	0.0318	442.86	120	1.35	720
		80	6000K	14	6	0.0318	442.86	120	1.35	720
		80	6500K	14	6	0.0318	442.86	120	1.35	720
Multiple models	HL-LM004H384W-50B6C18(Ra2)	80	2700K	18	6	0.0661	442.86	120	0.89	720
		80	3000K	18	6	0.0661	442.86	120	0.89	720
		80	3500K	18	6	0.0661	442.86	120	0.89	720
		80	4000K	18	6	0.0661	442.86	120	0.89	720
		80	5000K	18	6	0.0661	442.86	120	0.89	720
		80	5700K	18	6	0.0661	442.86	120	0.89	720
		80	6000K	18	6	0.0661	442.86	120	0.89	720
		80	6500K	18	6	0.0661	442.86	120	0.89	720

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LMH04D90W-40B18C12(Ra2)	80	2700K	12	18	0.0992	260.50	120	0.67	2160
		80	3000K	12	18	0.0992	260.50	120	0.67	2160
		80	3500K	12	18	0.0992	260.50	120	0.67	2160
		80	4000K	12	18	0.0992	260.50	120	0.67	2160
		80	5000K	12	18	0.0992	260.50	120	0.67	2160
		80	5700K	12	18	0.0992	260.50	120	0.67	2160
		80	6000K	12	18	0.0992	260.50	120	0.67	2160
		80	6500K	12	18	0.0992	260.50	120	0.67	2160
Multiple models	HL-LMH04D90W-35B16C12(Ra2)	80	2700K	12	16	0.0882	260.50	120	0.52	1920
		80	3000K	12	16	0.0882	260.50	120	0.52	1920
		80	3500K	12	16	0.0882	260.50	120	0.52	1920
		80	4000K	12	16	0.0882	260.50	120	0.52	1920
		80	5000K	12	16	0.0882	260.50	120	0.52	1920
		80	5700K	12	16	0.0882	260.50	120	0.52	1920
		80	6000K	12	16	0.0882	260.50	120	0.52	1920
		80	6500K	12	16	0.0882	260.50	120	0.52	1920
Multiple models	HL-LMH04D90W-25B12C12(Ra2)	80	2700K	12	12	0.0661	260.50	120	0.54	1440
		80	3000K	12	12	0.0661	260.50	120	0.54	1440
		80	3500K	12	12	0.0661	260.50	120	0.54	1440
		80	4000K	12	12	0.0661	260.50	120	0.54	1440
		80	5000K	12	12	0.0661	260.50	120	0.54	1440
		80	5700K	12	12	0.0661	260.50	120	0.54	1440
		80	6000K	12	12	0.0661	260.50	120	0.54	1440
		80	6500K	12	12	0.0661	260.50	120	0.54	1440
Multiple models	HL-LMH04D90W-22B11C12(Ra2)	80	2700K	12	11	0.0606	260.50	120	0.67	1320
		80	3000K	12	11	0.0606	260.50	120	0.67	1320
		80	3500K	12	11	0.0606	260.50	120	0.67	1320
		80	4000K	12	11	0.0606	260.50	120	0.67	1320
		80	5000K	12	11	0.0606	260.50	120	0.67	1320
		80	5700K	12	11	0.0606	260.50	120	0.67	1320
		80	6000K	12	11	0.0606	260.50	120	0.67	1320
		80	6500K	12	11	0.0606	260.50	120	0.67	1320
Multiple models	HL-LM071D94W-40B18C12(Ra2)	80	2700K	12	18	0.0978	211.36	120	0.39	2160
		80	3000K	12	18	0.0978	211.36	120	0.39	2160

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	12	18	0.0978	211.36	120	0.39	2160
		80	4000K	12	18	0.0978	211.36	120	0.39	2160
		80	5000K	12	18	0.0978	211.36	120	0.39	2160
		80	5700K	12	18	0.0978	211.36	120	0.39	2160
		80	6000K	12	18	0.0978	211.36	120	0.39	2160
		80	6500K	12	18	0.0978	211.36	120	0.39	2160
Multiple models	HL-LM071D94W-35B16C12(Ra2)	80	2700K	12	16	0.087	211.36	120	0.5	1920
		80	3000K	12	16	0.087	211.36	120	0.5	1920
		80	3500K	12	16	0.087	211.36	120	0.5	1920
		80	4000K	12	16	0.087	211.36	120	0.5	1920
		80	5000K	12	16	0.087	211.36	120	0.5	1920
		80	5700K	12	16	0.087	211.36	120	0.5	1920
		80	6000K	12	16	0.087	211.36	120	0.5	1920
		80	6500K	12	16	0.087	211.36	120	0.5	1920
Multiple models	HL-LM071D94W-25B12C12(Ra2)	80	2700K	12	12	0.0652	211.36	120	0.52	1440
		80	3000K	12	12	0.0652	211.36	120	0.52	1440
		80	3500K	12	12	0.0652	211.36	120	0.52	1440
		80	4000K	12	12	0.0652	211.36	120	0.52	1440
		80	5000K	12	12	0.0652	211.36	120	0.52	1440
		80	5700K	12	12	0.0652	211.36	120	0.52	1440
		80	6000K	12	12	0.0652	211.36	120	0.52	1440
		80	6500K	12	12	0.0652	211.36	120	0.52	1440
Multiple models	HL-LM071D94W-22B11C12(Ra2)	80	2700K	12	11	0.0598	211.36	120	0.65	1320
		80	3000K	12	11	0.0598	211.36	120	0.65	1320
		80	3500K	12	11	0.0598	211.36	120	0.65	1320
		80	4000K	12	11	0.0598	211.36	120	0.65	1320
		80	5000K	12	11	0.0598	211.36	120	0.65	1320
		80	5700K	12	11	0.0598	211.36	120	0.65	1320
		80	6000K	12	11	0.0598	211.36	120	0.65	1320
		80	6500K	12	11	0.0598	211.36	120	0.65	1320
Multiple models	HL-LM071D42W-40B18C12(Ra2)	80	2700K	12	18	0.0992	241.56	120	0.67	2160
		80	3000K	12	18	0.0992	241.56	120	0.67	2160
		80	3500K	12	18	0.0992	241.56	120	0.67	2160
		80	4000K	12	18	0.0992	241.56	120	0.67	2160

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	5000K	12	18	0.0992	241.56	120	0.67	2160
		80	5700K	12	18	0.0992	241.56	120	0.67	2160
		80	6000K	12	18	0.0992	241.56	120	0.67	2160
		80	6500K	12	18	0.0992	241.56	120	0.67	2160
Multiple models	HL-LM071D42W-35B16C12(Ra2)	80	2700K	12	16	0.0882	241.56	120	0.52	1920
		80	3000K	12	16	0.0882	241.56	120	0.52	1920
		80	3500K	12	16	0.0882	241.56	120	0.52	1920
		80	4000K	12	16	0.0882	241.56	120	0.52	1920
		80	5000K	12	16	0.0882	241.56	120	0.52	1920
		80	5700K	12	16	0.0882	241.56	120	0.52	1920
		80	6000K	12	16	0.0882	241.56	120	0.52	1920
Multiple models	HL-LM071D42W-25B12C12(Ra2)	80	2700K	12	12	0.0661	241.56	120	0.54	1440
		80	3000K	12	12	0.0661	241.56	120	0.54	1440
		80	3500K	12	12	0.0661	241.56	120	0.54	1440
		80	4000K	12	12	0.0661	241.56	120	0.54	1440
		80	5000K	12	12	0.0661	241.56	120	0.54	1440
		80	5700K	12	12	0.0661	241.56	120	0.54	1440
		80	6000K	12	12	0.0661	241.56	120	0.54	1440
		80	6500K	12	12	0.0661	241.56	120	0.54	1440
Multiple models	HL-LM071D42W-22B11C12(Ra2)	80	2700K	12	11	0.0606	241.56	120	0.67	1320
		80	3000K	12	11	0.0606	241.56	120	0.67	1320
		80	3500K	12	11	0.0606	241.56	120	0.67	1320
		80	4000K	12	11	0.0606	241.56	120	0.67	1320
		80	5000K	12	11	0.0606	241.56	120	0.67	1320
		80	5700K	12	11	0.0606	241.56	120	0.67	1320
		80	6000K	12	11	0.0606	241.56	120	0.67	1320
		80	6500K	12	11	0.0606	241.56	120	0.67	1320
Multiple models	HL-LML04H421W-40B18C12 (Ra2)	80	2700K	12	18	0.0579	401.85	70	0.7	1260
		80	3000K	12	18	0.0579	401.85	70	0.7	1260
		80	3500K	12	18	0.0579	401.85	70	0.7	1260
		80	4000K	12	18	0.0579	401.85	70	0.7	1260
		80	5000K	12	18	0.0579	401.85	70	0.7	1260
		80	5700K	12	18	0.0579	401.85	70	0.7	1260

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	6000K	12	18	0.0579	401.85	70	0.7	1260
		80	6500K	12	18	0.0579	401.85	70	0.7	1260
Multiple models	HL-LML04H421W-35B16C12(Ra2)	80	2700K	12	16	0.0514	401.85	70	0.52	1120
		80	3000K	12	16	0.0514	401.85	70	0.8	1120
		80	3500K	12	16	0.0514	401.85	70	0.8	1120
		80	4000K	12	16	0.0514	401.85	70	0.8	1120
		80	5000K	12	16	0.0514	401.85	70	0.8	1120
		80	5700K	12	16	0.0514	401.85	70	0.8	1120
		80	6000K	12	16	0.0514	401.85	70	0.8	1120
		80	6500K	12	16	0.0514	401.85	70	0.8	1120
Multiple models	HL-LML04H421W-25B12C12(Ra2)	80	2700K	12	12	0.0386	401.85	70	0.83	840
		80	3000K	12	12	0.0386	401.85	70	0.83	840
		80	3500K	12	12	0.0386	401.85	70	0.83	840
		80	4000K	12	12	0.0386	401.85	70	0.83	840
		80	5000K	12	12	0.0386	401.85	70	0.83	840
		80	5700K	12	12	0.0386	401.85	70	0.83	840
		80	6000K	12	12	0.0386	401.85	70	0.83	840
		80	6500K	12	12	0.0386	401.85	70	0.83	840
Multiple models	HL-LML04H421W-22B11C12(Ra2)	80	2700K	12	11	0.0354	401.85	70	0.95	770
		80	3000K	12	11	0.0354	401.85	70	0.95	770
		80	3500K	12	11	0.0354	401.85	70	0.95	770
		80	4000K	12	11	0.0354	401.85	70	0.95	770
		80	5000K	12	11	0.0354	401.85	70	0.95	770
		80	5700K	12	11	0.0354	401.85	70	0.95	770
		80	6000K	12	11	0.0354	401.85	70	0.95	770
		80	6500K	12	11	0.0354	401.85	70	0.95	770
Multiple models	HL-LM024H384W-40B2C40(Ra2)	80	2700K	40	2	0.0367	442.86	120	1.15	240
		80	3000K	40	2	0.0110	442.86	120	1.15	240
		80	3500K	40	2	0.0110	442.86	120	1.15	240
		80	4000K	40	2	0.0110	442.86	120	1.15	240
		80	5000K	40	2	0.0110	442.86	120	1.15	240
		80	5700K	40	2	0.0110	442.86	120	1.15	240
		80	6000K	40	2	0.0110	442.86	120	1.15	240
		80	6500K	40	2	0.0110	442.86	120	1.15	240

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Multiple models	HL-LM024H384W-50B2C50(Ra2)	80	2700K	50	2	0.0459	442.86	120	1.05	240
		80	3000K	50	2	0.0110	442.86	120	1.05	240
		80	3500K	50	2	0.0110	442.86	120	1.05	240
		80	4000K	50	2	0.0110	442.86	120	1.05	240
		80	5000K	50	2	0.0110	442.86	120	1.05	240
		80	5700K	50	2	0.0110	442.86	120	1.05	240
		80	6000K	50	2	0.0110	442.86	120	1.05	240
		80	6500K	50	2	0.0110	442.86	120	1.05	240
Multiple models	HL-LM024H384W-60B2C60(Ra2)	80	2700K	60	2	0.0459	442.86	120	0.88	240
		80	3000K	60	2	0.0110	442.86	120	0.88	240
		80	3500K	60	2	0.0110	442.86	120	0.88	240
		80	4000K	60	2	0.0110	442.86	120	0.88	240
		80	5000K	60	2	0.0110	442.86	120	0.88	240
		80	5700K	60	2	0.0110	442.86	120	0.88	240
		80	6000K	60	2	0.0110	442.86	120	0.88	240
		80	6500K	60	2	0.0110	442.86	120	0.88	240
Multiple models	HL-LM024D90W-40B2C40(Ra2)	80	2700K	40	2	0.0459	316.33	150	1.04	300
		80	3000K	40	2	0.0138	316.33	150	1.04	300
		80	3500K	40	2	0.0138	316.33	150	1.04	300
		80	4000K	40	2	0.0138	316.33	150	1.04	300
		80	5000K	40	2	0.0138	316.33	150	1.04	300
		80	5700K	40	2	0.0138	316.33	150	1.04	300
		80	6000K	40	2	0.0138	316.33	150	1.04	300
		80	6500K	40	2	0.0138	316.33	150	1.04	300
Multiple models	HL-LM024D90W-50B2C50(Ra2)	80	2700K	50	2	0.0574	316.33	150	0.94	300
		80	3000K	50	2	0.0138	316.33	150	0.94	300
		80	3500K	50	2	0.0138	316.33	150	0.94	300
		80	4000K	50	2	0.0138	316.33	150	0.94	300
		80	5000K	50	2	0.0138	316.33	150	0.94	300
		80	5700K	50	2	0.0138	316.33	150	0.94	300
		80	6000K	50	2	0.0138	316.33	150	0.94	300
		80	6500K	50	2	0.0138	316.33	150	0.94	300
Multiple models	HL-LM024D90W-60B2C60(Ra2)	80	2700K	60	2	0.0574	316.33	150	0.78	300
		80	3000K	60	2	0.0138	316.33	150	0.78	300

Model type	Model name	CRI (typ.)	CCT	Series	Parallel	Power density (W/mm ²)	Current density per LED die (mA/mm ²)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
		80	3500K	60	2	0.0138	316.33	150	0.78	300
		80	4000K	60	2	0.0138	316.33	150	0.78	300
		80	5000K	60	2	0.0138	316.33	150	0.78	300
		80	5700K	60	2	0.0138	316.33	150	0.78	300
		80	6000K	60	2	0.0138	316.33	150	0.78	300
		80	6500K	60	2	0.0138	316.33	150	0.78	300

1.2 Standards and Reference Documentations

- ANSI/IES LM-80-15: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources.
- CIE 127:2007: Measurement of LEDs
- ENERGY STAR[®] Requirements for the Use of LM-80 Data (This standard was not accredited by IAS)

1.3 Testing Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
1.0m integrating sphere	SENSING	SCD-20008	N/A	2018-06-28	2019-06-28
spectroradiometer	SENSING	SCD-20008	N/A	2018-06-28	2019-06-28
DC Power Supply	Hanshenpu yuan	HSPY-100-05	2013010210003	2018-05-04	2019-05-04
Standard Light Source	EVERFINE	D204	G100283CJ6351178	2018-12-24	2019-12-24
DC Power Supply	BACL	B25001	90020	2018-12-18	2019-12-18
Multilayer aging machine	BACL	B2-270	20015	2018-03-13	2019-03-13
DC Power Supply	KEITHLEY	2612A	1315255	2019-01-08	2020-01-08
DC Power Supply	BACL	B06010	90019	2018-12-18	2019-12-18

1.4 Drive Level

Samples are driven with a constant direct current (DC) during maintenance test, photometric and electrical measurement. The current value was regulated to within $\pm 3\%$ of the specified value of the manufacturer during maintenance test, and was within $\pm 0.5\%$ during photometric and electrical measurement test.

1.5 Ambient Conditions for Maintenance Test

For lumen maintenance test, samples within one data set, were installed on cooling boards in thermal chambers with minimal ambient airflow. The case temperature and ambient temperature was monitored by thermocouples which one was soldered to the coldest DUTs' case (TMP_{LED}) location, while the other is mounted at a distance of 5 mm above the TMP location.

During life testing, TMP_{LED} of the coldest LEDs were maintained at a temperature that was greater than or equal to 2°C below the corresponding nominal case temperature. Surrounding air was maintained at a temperature that was greater than or equal to 5°C below the corresponding nominal case temperature. Thermocouples were shielded from direct DUT optical radiation and comply with ASTM E230 Table 1 "Special Limits".

Samples were connected to DC power supply in series circuits with a constant current. The forward current was regulated to within $\pm 3\%$ of the specified value of the manufacturer.

The relative humidity within chamber was kept less than 65% during test.

For photometry measurement, the ambient temperature during test was set to $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, RH <65%.

1.6 Photometric Measurement Method and Uncertainty

Integrating sphere and spectroradiometer is used to measure luminous flux and chromaticity coordinate $u'v'$. 2π measurement was used and sample was driven by DC power supply. The forward current was regulated to within $\pm 0.5\%$ of the nominal value. The test system was calibrated by halogen reference lamp. The ambient temperature during test was set to $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, RH <65%. The temperature measurement point was located in the sphere and the temperature was detected by a temperature probe.

The uncertainty of the light output measurements is $U=1.59\%$ ($K=2$), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is $U=21\text{K}$ ($K=2$), at the 95% confidence level.

The uncertainty of the temperature is $U=0.8671^{\circ}\text{C}$ ($K=2$), at the 95% confidence level.

1.7 Statement of Traceability

Bay Area Compliance Laboratories Corp. (Dongguan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

1.8 Sample Set

Data Set 1: 85°C, 2700mA

Part Number: HL-LM071H384W-80B18C18(Ra2)
Number of Units: 20
Case Temperature: >83°C
Ambient Temperature: >80°C
Life Test Drive Current: 2700mA
Measurement Current: 2700mA

Data Set 2: 105°C, 2700mA

Part Number: HL-LM071H384W-80B18C18(Ra2)
Number of Units: 20
Case Temperature: >103°C
Ambient Temperature: >100°C
Life Test Drive Current: 2700mA
Measurement Current: 2700mA

2 - Summary of Test Result

Data Set:	Sample Size	Failures Observed:	Test Interval	Test Duration	α	β	Reported TM-21 L ₇₀ Lifetime	Reported TM-21 L ₈₀ Lifetime	Reported TM-21 L ₉₀ Lifetime
1	20	0	1000hrs	7000hrs	3.258E-06	1.001	>42000hrs	>42000hrs	33000hrs
2	20	0	1000hrs	7000hrs	3.932E-06	0.996	>42000hrs	>42000hrs	26000hrs

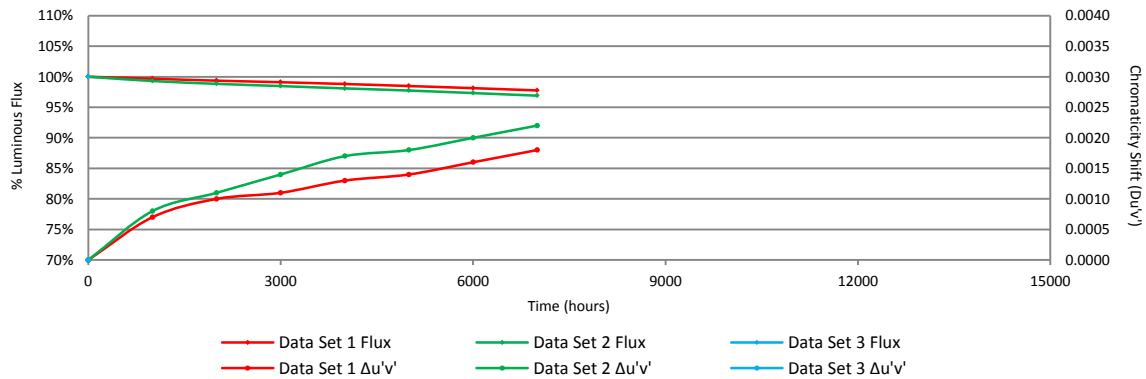
Average Lumen Maintenance (Percentage of Initial Luminous Flux)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
1	99.67%	99.36%	99.10%	98.81%	98.48%	98.13%	97.76%
2	99.30%	98.84%	98.47%	98.09%	97.74%	97.33%	96.90%

Average Chromaticity Shift

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
1	0.0007	0.0010	0.0011	0.0013	0.0014	0.0016	0.0018
2	0.0008	0.0011	0.0014	0.0017	0.0018	0.0020	0.0022

Average Lumen Maintenance and Chromaticity Shift VS. Time



3 - Test Data

3.1 Data Set 1, 85°C, 2700mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
1	17678.85	99.65	99.27	99.11	98.82	98.29	97.83	97.18
2	17639.13	100.02	99.60	99.29	98.96	98.65	98.44	98.28
3	18082.59	99.31	99.01	98.56	98.08	97.48	96.97	96.59
4	17566.33	99.51	99.20	98.98	98.64	98.43	98.21	97.76
5	17850.94	99.49	98.92	98.76	98.65	98.42	98.15	98.01
6	17996.55	99.97	99.63	99.24	98.92	98.47	98.28	98.12
7	17407.48	99.39	99.29	99.19	98.87	98.60	98.10	97.59
8	17983.31	99.95	99.51	99.28	98.96	98.60	98.19	97.85
9	17811.22	99.84	99.44	99.30	98.97	98.85	98.57	97.97
10	17970.07	99.08	98.67	98.38	98.17	97.99	97.40	96.94
11	17950.22	99.50	99.16	98.93	98.63	98.34	98.11	97.78
12	17407.48	99.56	99.39	99.23	99.10	98.43	97.96	97.29
13	17784.75	99.78	99.53	99.33	99.07	98.71	98.51	98.39
14	17427.33	99.47	99.13	98.94	98.70	98.48	98.28	98.06
15	17837.70	99.61	99.23	98.88	98.60	98.18	97.81	97.55
16	17460.43	99.85	99.63	99.32	99.10	98.95	98.62	98.15
17	17718.56	99.94	99.76	99.48	99.25	98.94	98.53	98.21
18	17698.70	99.68	99.35	99.09	98.79	98.43	97.87	97.58
19	17301.57	99.75	99.48	99.24	98.77	98.49	98.19	97.72
20	17817.84	100.04	99.94	99.54	99.22	98.95	98.63	98.19
Avg.	17719.55	99.67	99.36	99.10	98.81	98.48	98.13	97.76
Med.	17751.66	99.67	99.37	99.21	98.84	98.48	98.19	97.82
st dev	229.61	0.26	0.30	0.29	0.30	0.35	0.42	0.47
Min.	17301.57	99.08	98.67	98.38	98.08	97.48	96.97	96.59
Max.	18082.59	100.04	99.94	99.54	99.25	98.95	98.63	98.39

3.2 Data Set 1, 85°C, 2700mA (Forward Voltage)

No.	Forward Voltage (V)							
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
1	57.48	56.91	57.27	57.21	57.48	57.44	57.20	57.85
2	57.01	56.69	56.69	57.26	57.00	56.82	56.71	57.79
3	57.93	56.96	57.23	57.74	57.34	57.06	56.82	58.06
4	58.04	57.08	56.93	57.59	57.22	56.94	56.81	58.33
5	57.64	56.73	57.51	57.33	57.00	56.76	56.67	58.04
6	58.29	57.50	57.14	58.19	57.95	57.77	57.63	58.96
7	57.07	57.54	56.93	56.95	57.66	57.54	57.42	57.72
8	58.28	57.53	57.40	57.26	57.13	57.27	57.19	58.36
9	57.91	57.80	57.00	56.97	56.87	56.85	56.90	57.99
10	57.58	57.90	56.84	56.65	56.81	56.58	56.60	57.88
11	57.77	57.50	57.56	57.75	57.44	57.70	57.38	57.27
12	57.21	57.27	57.09	57.10	56.94	56.78	56.70	57.31
13	58.24	57.58	56.85	56.98	57.43	57.36	56.36	58.41
14	56.78	57.21	56.65	56.12	56.14	56.12	55.97	57.07
15	58.28	57.52	57.26	58.09	57.62	57.33	57.41	57.95
16	58.02	57.86	57.05	58.06	58.21	58.06	58.03	57.86
17	57.51	57.51	56.43	57.68	57.62	57.51	57.35	57.80
18	57.95	57.27	57.14	57.16	57.00	56.96	56.86	58.11
19	57.67	57.78	56.92	56.69	56.59	56.66	56.53	58.00
20	57.97	57.47	56.97	57.32	57.92	57.79	57.79	58.10
Avg.	57.73	57.38	57.04	57.31	57.27	57.17	57.02	57.94
Med.	57.84	57.50	57.03	57.26	57.28	57.17	56.88	57.97
st dev	0.45	0.36	0.29	0.52	0.50	0.49	0.51	0.42
Min.	56.78	56.69	56.43	56.12	56.14	56.12	55.97	57.07
Max.	58.29	57.90	57.56	58.19	58.21	58.06	58.03	58.96

3.3 Data Set 1, 85°C, 2700mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift ($\Delta u'v'$)						
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
1	0.2622	0.5287	2702	0.0007	0.0010	0.0014	0.0008	0.0008	0.0008	0.0011
2	0.2625	0.5277	2698	0.0005	0.0010	0.0006	0.0002	0.0003	0.0006	0.0007
3	0.2622	0.5272	2708	0.0005	0.0011	0.0009	0.0005	0.0001	0.0006	0.0009
4	0.2630	0.5273	2690	0.0006	0.0002	0.0008	0.0011	0.0016	0.0021	0.0022
5	0.2626	0.5285	2694	0.0010	0.0010	0.0011	0.0016	0.0020	0.0023	0.0025
6	0.2626	0.5284	2694	0.0008	0.0012	0.0014	0.0016	0.0020	0.0023	0.0026
7	0.2626	0.5290	2692	0.0009	0.0011	0.0009	0.0014	0.0018	0.0021	0.0021
8	0.2624	0.5282	2698	0.0007	0.0009	0.0004	0.0004	0.0003	0.0004	0.0004
9	0.2627	0.5286	2692	0.0007	0.0004	0.0007	0.0009	0.0012	0.0009	0.0014
10	0.2621	0.5285	2702	0.0007	0.0009	0.0010	0.0013	0.0011	0.0012	0.0015
11	0.2634	0.5282	2678	0.0004	0.0009	0.0016	0.0017	0.0016	0.0018	0.0020
12	0.2633	0.5303	2674	0.0008	0.0013	0.0015	0.0017	0.0021	0.0024	0.0026
13	0.2637	0.5282	2672	0.0006	0.0006	0.0007	0.0011	0.0013	0.0012	0.0015
14	0.2631	0.5289	2680	0.0007	0.0005	0.0011	0.0009	0.0010	0.0016	0.0018
15	0.2637	0.5282	2672	0.0009	0.0014	0.0018	0.0018	0.0022	0.0021	0.0024
16	0.2639	0.5275	2670	0.0009	0.0019	0.0022	0.0024	0.0027	0.0025	0.0027
17	0.2637	0.5290	2670	0.0008	0.0010	0.0011	0.0011	0.0013	0.0015	0.0016
18	0.2634	0.5285	2676	0.0006	0.0009	0.0009	0.0016	0.0014	0.0019	0.0021
19	0.2637	0.5275	2674	0.0008	0.0013	0.0012	0.0019	0.0014	0.0020	0.0022
20	0.2636	0.5278	2676	0.0008	0.0011	0.0013	0.0017	0.0020	0.0019	0.0023
Avg.	0.2630	0.5283	2686	0.0007	0.0010	0.0011	0.0013	0.0014	0.0016	0.0018
Med.	0.2631	0.5283	2685	0.0007	0.0010	0.0011	0.0013	0.0014	0.0019	0.0020
st dev	0.0006	0.0007	13	0.0002	0.0004	0.0004	0.0006	0.0007	0.0007	0.0007
Min.	0.2621	0.5272	2670	0.0004	0.0002	0.0004	0.0002	0.0001	0.0004	0.0004
Max.	0.2639	0.5303	2708	0.0010	0.0019	0.0022	0.0024	0.0027	0.0025	0.0027

3.4 Data Set 2, 105°C, 2700mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
21	17692.08	99.50	99.27	99.01	98.48	98.10	97.63	97.48
22	17400.86	98.90	98.65	98.18	97.72	97.25	96.88	96.55
23	17797.99	99.75	99.08	98.93	98.37	98.13	97.82	97.48
24	17771.51	99.04	98.64	98.23	97.71	97.52	97.11	96.93
25	17387.62	99.59	99.18	98.90	98.43	98.08	97.55	96.84
26	17559.71	99.33	98.76	98.46	98.26	98.08	97.75	97.41
27	17288.34	98.99	98.65	98.09	97.63	97.35	96.85	96.45
28	17890.65	99.29	98.97	98.65	98.39	98.06	97.60	97.28
29	17566.33	99.65	99.12	98.95	98.73	98.24	97.96	97.79
30	17831.08	98.84	98.48	97.98	97.43	97.21	96.87	96.24
31	17784.75	98.59	98.12	97.54	97.08	96.59	96.12	95.47
32	17678.85	98.79	98.29	97.84	97.43	97.11	96.81	96.70
33	17268.48	99.44	98.83	98.43	98.10	97.96	97.53	96.96
34	17592.80	99.86	99.32	98.89	98.37	97.99	97.60	97.24
35	17612.66	99.80	99.26	99.03	98.83	98.33	98.09	97.37
36	17361.14	98.82	98.37	97.81	97.55	97.24	96.82	96.56
37	17420.71	99.44	98.86	98.57	98.36	98.02	97.52	96.79
38	17572.95	99.01	98.58	98.36	98.08	97.69	97.10	96.71
39	17711.94	99.57	99.10	98.64	98.47	97.91	97.44	96.79
40	17897.27	99.85	99.37	98.95	98.47	97.92	97.60	96.86
Avg.	17604.39	99.30	98.84	98.47	98.09	97.74	97.33	96.90
Med.	17602.73	99.38	98.84	98.51	98.31	97.94	97.53	96.85
st dev	197.42	0.40	0.37	0.46	0.49	0.47	0.49	0.53
Min.	17268.48	98.59	98.12	97.54	97.08	96.59	96.12	95.47
Max.	17897.27	99.86	99.37	99.03	98.83	98.33	98.09	97.79

3.5 Data Set 2, 105°C, 2700mA (Forward Voltage)

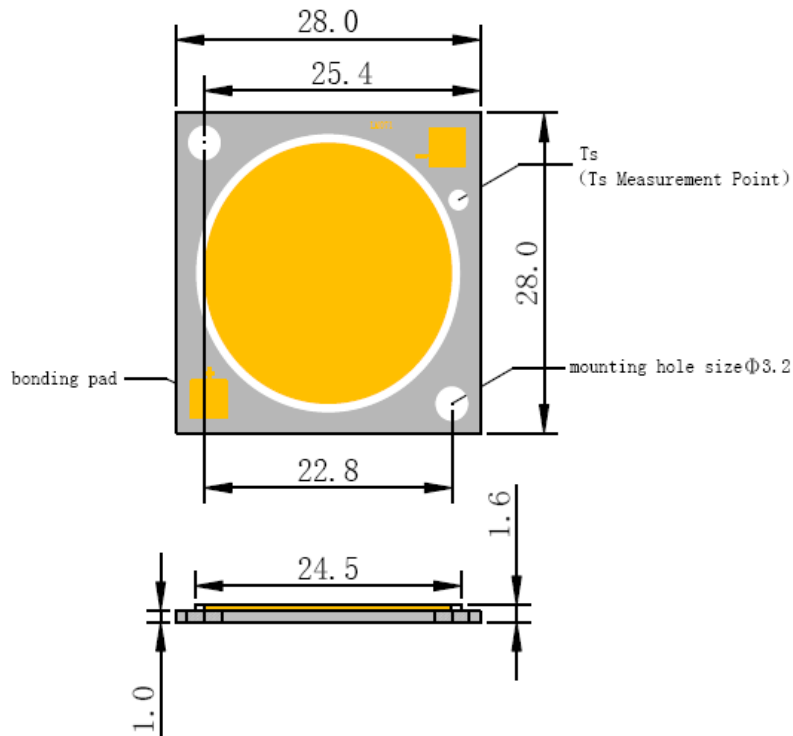
No.	Forward Voltage (V)							
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
21	57.02	57.28	56.65	57.09	57.46	57.14	56.96	57.12
22	58.02	57.76	57.46	57.21	56.89	56.84	56.72	57.88
23	57.81	57.39	57.86	57.33	57.10	56.95	56.86	57.86
24	57.66	57.18	57.45	57.83	57.60	57.48	57.33	58.24
25	56.89	57.49	57.18	57.18	57.06	57.48	57.27	56.96
26	57.80	57.13	57.65	57.48	57.27	57.11	57.04	58.19
27	57.94	57.91	57.32	57.56	57.33	57.16	57.01	58.34
28	58.16	57.26	57.03	56.93	56.94	56.96	56.94	58.37
29	57.69	56.83	56.76	57.43	57.14	56.93	56.79	57.70
30	57.99	56.53	57.42	56.54	57.48	57.45	57.43	58.17
31	58.19	57.27	57.15	57.79	57.60	57.43	57.43	58.02
32	58.07	56.76	57.91	57.48	57.33	57.35	57.31	58.21
33	57.73	56.63	57.49	57.19	57.07	57.15	57.10	57.28
34	57.69	57.00	57.14	57.25	57.32	57.15	57.01	57.64
35	58.35	56.65	57.66	56.96	56.94	56.92	56.97	58.56
36	58.19	56.47	57.28	58.03	57.73	57.45	57.36	58.37
37	57.27	57.97	57.03	57.26	57.10	57.01	56.93	56.82
38	58.34	57.81	57.24	57.54	57.34	57.26	57.19	58.38
39	58.14	57.47	57.86	58.06	57.75	57.62	57.41	57.20
40	57.91	56.73	57.62	57.40	57.97	57.55	57.33	57.82
Avg.	57.84	57.18	57.36	57.38	57.32	57.22	57.12	57.86
Med.	57.93	57.22	57.37	57.37	57.33	57.16	57.07	57.95
st dev	0.40	0.47	0.35	0.37	0.30	0.24	0.23	0.53
Min.	56.89	56.47	56.65	56.54	56.89	56.84	56.72	56.82
Max.	58.35	57.97	57.91	58.06	57.97	57.62	57.43	58.56

3.6 Data Set 2, 105°C, 2700mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift ($\Delta u'v'$)						
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs
21	0.2634	0.5285	2678	0.0006	0.0011	0.0013	0.0016	0.0021	0.0022	0.0026
22	0.2643	0.5283	2660	0.0007	0.0010	0.0010	0.0013	0.0016	0.0019	0.0023
23	0.2644	0.5296	2652	0.0006	0.0012	0.0011	0.0014	0.0018	0.0021	0.0023
24	0.2634	0.5283	2678	0.0006	0.0014	0.0017	0.0020	0.0021	0.0022	0.0028
25	0.2636	0.5281	2674	0.0008	0.0018	0.0021	0.0028	0.0021	0.0023	0.0025
26	0.2636	0.5279	2676	0.0009	0.0004	0.0005	0.0011	0.0012	0.0016	0.0021
27	0.2642	0.5273	2666	0.0016	0.0010	0.0011	0.0014	0.0016	0.0017	0.0020
28	0.2639	0.5284	2668	0.0009	0.0012	0.0016	0.0025	0.0023	0.0025	0.0030
29	0.2633	0.5278	2682	0.0009	0.0016	0.0017	0.0013	0.0015	0.0016	0.0016
30	0.2635	0.5287	2674	0.0010	0.0008	0.0012	0.0015	0.0016	0.0017	0.0020
31	0.2630	0.5282	2686	0.0001	0.0009	0.0011	0.0012	0.0013	0.0014	0.0016
32	0.2630	0.5289	2684	0.0013	0.0007	0.0007	0.0010	0.0009	0.0010	0.0012
33	0.2634	0.5296	2672	0.0011	0.0019	0.0022	0.0026	0.0024	0.0025	0.0021
34	0.2629	0.5292	2684	0.0010	0.0017	0.0020	0.0019	0.0021	0.0024	0.0022
35	0.2628	0.5286	2690	0.0012	0.0004	0.0005	0.0005	0.0006	0.0007	0.0020
36	0.2639	0.5276	2670	0.0007	0.0011	0.0014	0.0015	0.0018	0.0019	0.0017
37	0.2634	0.5295	2674	0.0005	0.0019	0.0022	0.0028	0.0032	0.0032	0.0027
38	0.2634	0.5284	2678	0.0004	0.0007	0.0008	0.0014	0.0015	0.0016	0.0018
39	0.2634	0.5285	2678	0.0009	0.0011	0.0016	0.0017	0.0020	0.0023	0.0025
40	0.2631	0.5284	2682	0.0006	0.0011	0.0014	0.0017	0.0019	0.0025	0.0027
Avg.	0.2635	0.5285	2675	0.0008	0.0011	0.0014	0.0017	0.0018	0.0020	0.0022
Med.	0.2634	0.5284	2677	0.0008	0.0011	0.0013	0.0015	0.0018	0.0020	0.0022
st dev	0.0005	0.0006	9	0.0003	0.0005	0.0005	0.0006	0.0006	0.0006	0.0005
Min.	0.2628	0.5273	2652	0.0001	0.0004	0.0005	0.0005	0.0006	0.0007	0.0012
Max.	0.2644	0.5296	2690	0.0016	0.0019	0.0022	0.0028	0.0032	0.0032	0.0030

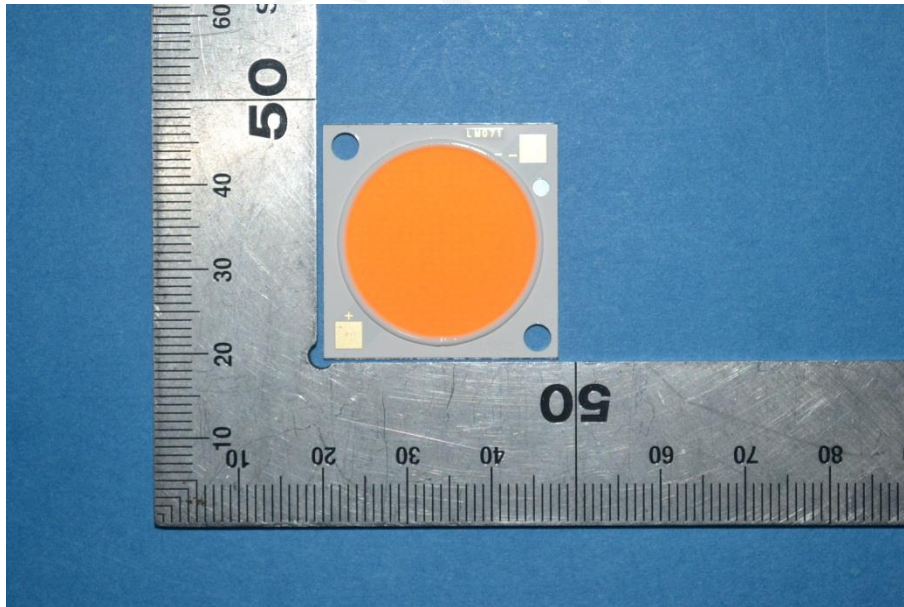
4 - DUT Photo

4.1 Mechanical Dimensions



All dimensions are in millimeter

4.2 DUT Photo



*****END OF REPORT*****