



Report No.: RHL21101802-9

LM-79-08 Test Report

For

GREEN CREATIVE LTD

(Brand Name: GREEN CREATIVE)

Room 3603, Level 36, Tower 1, Enterprise Square Five, 38 Wang Chiu Road,
Kowloon Bay, KL, Hong Kong

LED Lamps

Model name(s): 9A19DIM/830/R

Test & Report By:

Peter Zhou

Engineer: Peter Zhou

Date: Oct,20,2021

Review By:

Ryan Liang

Manager: Ryan Liang

1.1 Product Information:

Organization Name	GREEN CREATIVE LTD	
Brand Name	GREEN CREATIVE	
Model Number	9A19DIM/830/R	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Lamps	
Rated Voltage / Frequency	120Vac, 60 Hz	
Nominal Power	9W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K	
LED Manufacturer	Bridgelux Inc.	
LED Model	BXVN-XXE-13H-9HV	
Sample Number	RHL21101802-901	
Lamp Length	--	mm
Lamp Width	--	mm
Number of Units (modular products)	N/A	s

Photo





1.2 Test Specifications:

Date of Receipt	Oct. 18, 2021
Date of Test	Oct. 18, 2021
Test item	<ol style="list-style-type: none">1. Total Luminous Flux2. Luminous Distribution Intensity3. Luminous Efficacy4. Correlated Color Temperature5. Color Rendering Index6. Chromaticity Coordinate7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none">1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products and IES-LM-79-2019 OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources4. CIE 15-2004 Technical Report Colorimetry5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	HL-WI-EE-001, HL-WI-EE-002

1.3 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

**2.1 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction HL-WI-EE-001, HL-WI-EE-002)*

Test date	2021-10-18	Test Ambient:	25.1 °C
Model Number	9A19DIM/830/R	Stabilization Time (min)	90

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
RHL2110 1802-901	120.0	60	0.09	8.96	0.83	66.3

Chromaticity Measurement - Sphere-Spectroradiometer Method:

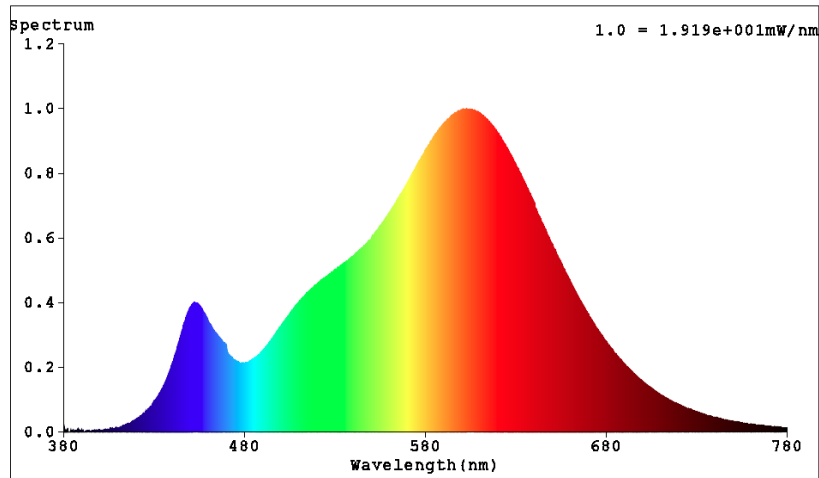
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	6
Frequency (Hz)	60	R2	91	R10	80
CCT (K)	2986	R3	96	R11	80
Duv	0.0012	R4	81	R12	74
Chromaticity (x, y)	x = 0.4399 y = 0.4085	R5	81	R13	83
Chromaticity (u', v')	u' = 0.2506 v' = 0.5235	R6	90	R14	99
Color Rendering Index (CRI)	82.7	R7	83	R15	73
R9	6	R8	58	--	--
Rf	86	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-11	--	--	--	--

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	937.64
Luminous Efficacy (lm/W)	104.65

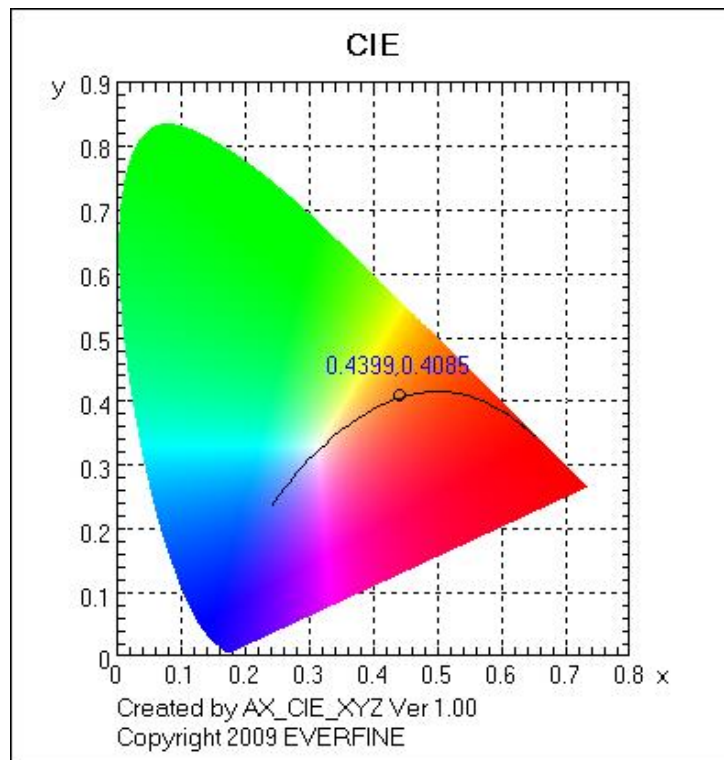


Relative Spectral Power Distribution

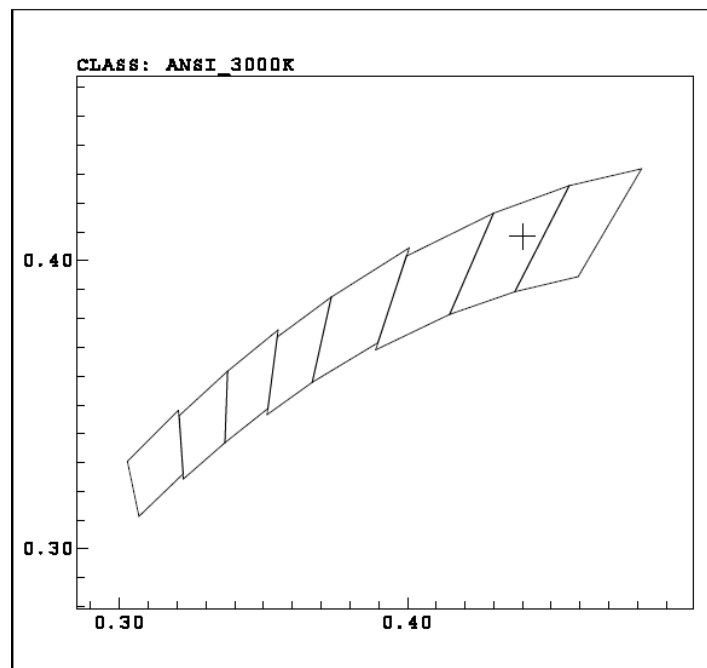


Spectral Distribution over Visible Wavelength							
WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)
380	0.0035	485	0.2279	590	0.9534	695	0.1829
385	0.0072	490	0.2525	595	0.9807	700	0.1577
390	0.0085	495	0.2893	600	0.9949	705	0.1363
395	0.0024	500	0.3270	605	0.9974	710	0.1164
400	0.0067	505	0.3677	610	0.9870	715	0.0989
405	0.0085	510	0.4029	615	0.9612	720	0.0860
410	0.0139	515	0.4333	620	0.9254	725	0.0724
415	0.0257	520	0.4571	625	0.8811	730	0.0628
420	0.0397	525	0.4801	630	0.8289	735	0.0538
425	0.0610	530	0.5023	635	0.7711	740	0.0458
430	0.0966	535	0.5237	640	0.7118	745	0.0396
435	0.1420	540	0.5440	645	0.6444	750	0.0339
440	0.2143	545	0.5706	650	0.5838	755	0.0291
445	0.3066	550	0.5978	655	0.5255	760	0.0248
450	0.3877	555	0.6385	660	0.4689	765	0.0213
455	0.3931	560	0.6788	665	0.4135	770	0.0187
460	0.3428	565	0.7241	670	0.3671	775	0.0162
465	0.3016	570	0.7710	675	0.3207	780	0.0148
470	0.2679	575	0.8229	680	0.2802		
475	0.2219	580	0.8729	685	0.2434		
480	0.2141	585	0.9172	690	0.2123		

CIE 1931xy Chromaticity Diagram



Chromaticity Quadrangles



**2.2 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction HL-WI-EE-001, HL-WI-EE-002)*

Test date	2021-10-18	Test Ambient:	25.1 ° C
Model Number	9A19DIM/830/R	Stabilization Time (min)	90

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
RHL2110 1802-901	120.0	60	0.091	9.13	0.834	65.31

Photometric Measurement – Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	912.0
Luminous Efficacy (lm/W)	99.89
Beam Angle (°)	151.3
Center Beam Candle Power (cd)	166



Report No.: RHL21101802-9

Zonal Lumen Tabulation

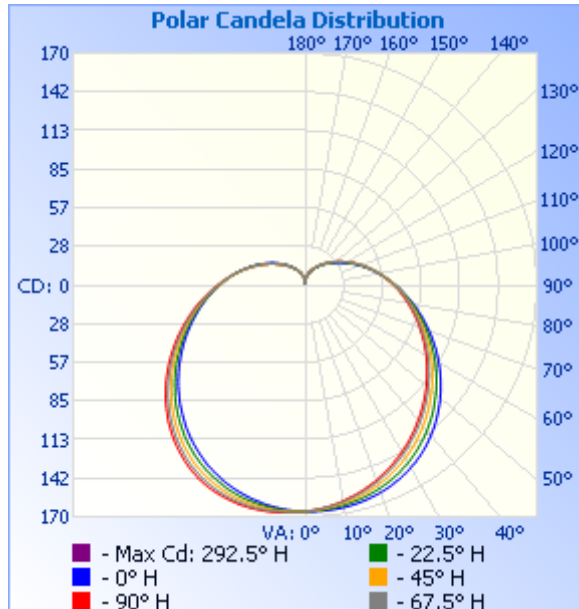
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	133.7	14.7%	14.7%
0-40	225.0	24.7%	24.7%
0-60	432.0	47.4%	47.4%
60-90	268.3	29.4%	29.4%
70-100	231.8	25.4%	25.4%
90-120	150.2	16.5%	16.5%
0-90	700.3	76.8%	76.8%
90-180	211.6	23.2%	23.2%
0-180	912.0	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	15.8	1.7%	90-100	63.7	7%
10-20	45.9	5.0%	100-110	49.7	5.5%
20-30	72.0	7.9%	110-120	36.8	4%
30-40	91.3	10.0%	120-130	25.8	2.8%
40-50	102.2	11.2%	130-140	17.0	1.9%
50-60	104.8	11.5%	140-150	10.4	1.1%
60-70	100.2	11.0%	150-160	5.5	0.6%
70-80	90.5	9.9%	160-170	2.3	0.3%
80-90	77.7	8.5%	170-180	0.4	0%

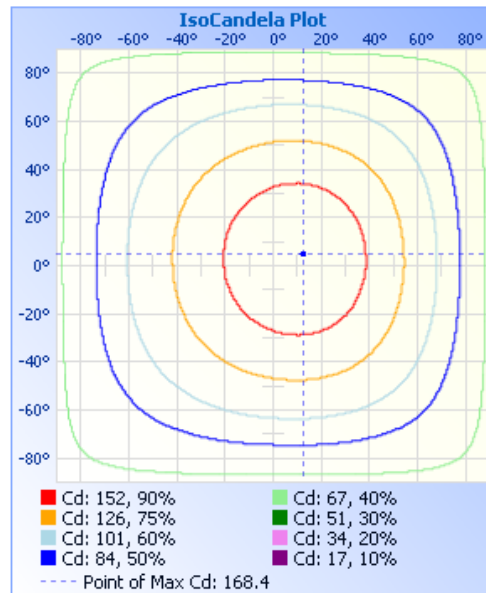
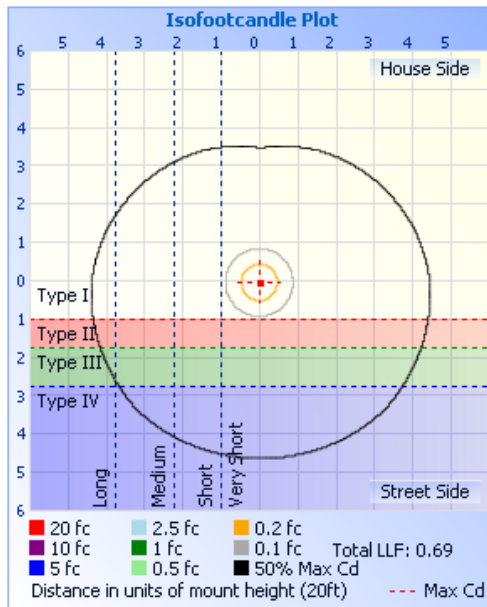
Photometric Data



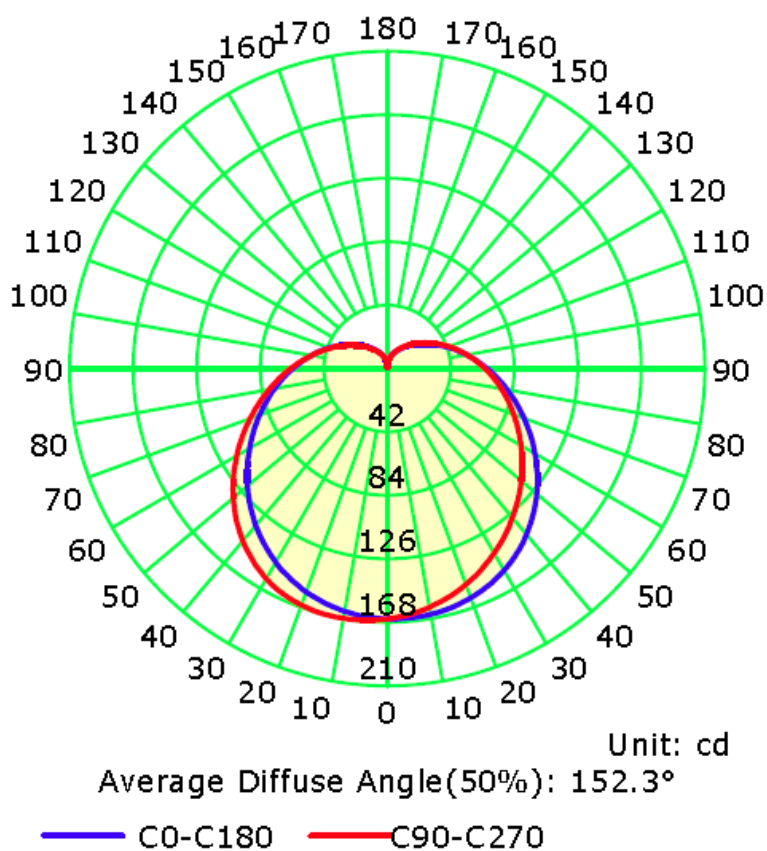
Illuminance at a Distance

	Center Beam fc	Beam Width
17.0ft	0.57 fc	135.2 ft 132.7 ft
34.0ft	0.14 fc	270.3 ft 265.4 ft
51.0ft	0.06 fc	405.5 ft 398.0 ft
68.0ft	0.04 fc	540.6 ft 530.7 ft
85.0ft	0.02 fc	675.8 ft 663.4 ft
102.0ft	0.02 fc	811.0 ft 796.1 ft

■ Vert. Spread: 151.8°
■ Horiz. Spread: 151.3°



Luminous Intensity Distribution Curve



	C0/C180	C90/C270	C45/C225	C135/315	Avg.
Field Angle	289.4	288.5	289.3	288.3	288.9
Beam Angle	153.3	151.3	152.9	151.4	152.2



Report No.: RHL21101802-9

Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
1	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166	166
2	166	166	165	165	165	165	165	165	166	166	166	167	167	167	167	167	166
3	166	166	165	165	165	165	165	165	166	166	166	167	167	167	167	167	166
4	166	166	165	165	164	164	164	165	165	166	166	167	167	167	167	167	166
5	166	165	165	164	164	164	164	164	165	166	166	167	168	168	167	167	166
6	166	165	164	163	163	163	163	164	165	166	166	167	168	168	168	167	166
7	166	165	164	163	163	163	163	164	165	166	166	167	168	168	168	167	166
8	166	164	163	162	162	162	162	163	164	165	166	167	168	168	168	167	166
9	166	164	163	162	162	161	162	163	164	165	166	167	168	168	168	167	166
10	165	164	162	161	161	160	161	162	164	165	166	167	168	168	168	167	165
11	165	163	162	161	160	160	160	162	163	164	166	167	168	168	168	167	165
12	165	163	161	160	159	159	160	161	162	164	166	167	168	168	168	167	165
13	165	163	161	159	158	158	159	160	162	164	166	167	168	168	168	167	165
14	164	162	160	159	158	157	158	160	162	163	165	167	168	168	168	166	164
15	164	162	160	158	157	157	158	159	161	163	165	167	168	168	168	166	164
16	164	161	159	157	156	156	156	158	160	163	165	167	168	168	167	166	164
17	163	161	158	156	155	155	156	157	160	162	164	166	168	168	167	166	163
18	163	160	158	155	154	154	155	157	159	162	164	166	167	168	167	165	163
19	162	159	157	155	153	153	154	156	158	161	164	166	167	167	167	165	162
20	162	159	156	154	152	152	153	155	158	160	163	165	167	167	166	165	162
21	161	158	155	153	151	151	152	154	157	160	162	165	166	167	166	164	161
22	161	157	154	152	150	150	151	153	156	159	162	164	166	167	166	164	161
23	160	157	154	151	149	149	150	152	155	158	161	164	166	166	165	163	160
24	159	156	153	150	148	148	149	151	154	157	161	163	165	166	165	163	159
25	159	155	152	149	147	147	148	150	153	156	160	163	165	165	164	162	159
26	158	154	151	148	146	146	147	149	152	156	159	162	164	164	164	161	158
27	157	153	150	147	145	145	146	148	151	155	158	161	163	164	163	161	157
28	156	152	149	146	144	143	145	147	150	154	157	160	163	163	162	160	156
29	156	152	148	145	143	142	143	146	149	153	157	160	162	162	161	159	156
30	155	151	147	143	142	141	142	145	148	152	156	159	161	161	161	158	155
31	154	150	145	142	140	140	141	144	147	151	155	158	160	160	160	157	154
32	153	148	144	141	139	139	140	143	146	150	154	157	159	160	159	156	153
33	152	147	143	140	138	137	139	141	145	149	152	156	158	159	158	155	152
34	151	146	142	139	137	136	137	140	144	147	151	154	157	158	157	154	151
35	150	145	141	137	135	135	136	139	142	146	150	153	156	156	156	153	150
36	149	144	140	136	134	134	135	138	141	145	149	152	154	155	154	152	149
37	147	143	138	135	133	132	134	136	140	144	148	151	153	154	153	151	147
38	146	142	137	134	132	131	132	135	138	142	146	149	152	153	152	150	146
39	145	140	136	132	130	130	131	134	137	141	145	148	150	151	151	149	145
40	144	139	135	131	129	128	130	132	136	140	143	147	149	150	150	147	144
41	142	138	133	130	128	127	128	131	134	138	142	145	148	149	148	146	142

Laboratory: Hopestar Test Lab Limited, NVLAP Code: 600245-0
Add: Room 212, 24 Building, 7 Qingyi Road, Hi-Tech Zone, Ningbo, China
www.hopestartest.com

Report Format Number HL-Report-EEL-001



Report No.: RHL21101802-9

42	141	136	132	129	126	126	127	129	133	137	141	144	146	147	147	145	141
43	140	135	131	127	125	124	126	128	131	135	139	142	145	146	145	143	140
44	138	134	129	126	124	123	124	127	130	134	138	141	143	144	144	142	138
45	137	132	128	125	123	122	123	125	129	132	136	139	142	143	142	140	137
46	135	131	127	123	121	120	121	124	127	131	135	138	140	141	141	139	135
47	134	129	125	122	120	119	120	122	126	129	133	136	138	139	139	137	134
48	132	128	124	120	119	118	119	121	124	128	131	134	137	138	138	136	132
49	131	126	122	119	117	116	117	119	123	126	130	133	135	136	136	134	131
50	129	125	121	118	116	115	116	118	121	125	128	131	133	134	134	133	129
51	128	124	119	116	114	114	114	117	120	123	126	129	132	133	133	131	128
52	126	122	118	115	113	112	113	115	118	121	125	128	130	131	131	129	126
53	125	120	117	114	112	111	112	114	116	120	123	126	128	129	129	128	125
54	123	119	115	112	110	110	110	112	115	118	121	124	126	127	127	126	123
55	121	117	114	111	109	108	109	111	113	116	120	122	125	126	126	124	121
56	120	116	112	109	108	107	107	109	112	115	118	120	123	124	124	123	120
57	118	114	111	108	106	106	106	108	110	113	116	119	121	122	122	121	118
58	116	113	110	107	105	104	105	106	109	111	114	117	119	120	120	119	116
59	115	111	108	105	104	103	103	105	107	110	113	115	117	118	118	117	115
60	113	110	107	104	102	102	102	103	106	108	111	113	115	116	117	115	113
61	111	108	105	103	101	100	100	102	104	107	109	112	113	115	115	114	111
62	110	107	104	101	100	99	99	100	102	105	107	110	112	113	113	112	110
63	108	105	102	100	98	97	98	99	101	103	106	108	110	111	111	110	108
64	106	103	101	99	97	96	96	98	99	102	104	106	108	109	109	108	106
65	105	102	99	97	96	95	95	96	98	100	102	104	106	107	107	107	105
66	103	100	98	96	94	94	94	95	96	98	101	102	104	105	106	105	103
67	101	99	97	94	93	92	92	93	95	97	99	101	102	103	104	103	101
68	100	97	95	93	92	91	91	92	93	95	97	99	101	102	102	101	100
69	98	96	94	92	91	90	90	90	92	94	95	97	99	100	100	99	98
70	97	94	92	91	89	88	88	89	90	92	94	95	97	98	98	98	97
71	95	93	91	89	88	87	87	88	89	90	92	94	95	96	96	96	95
72	93	91	89	88	87	86	86	86	87	89	90	92	93	94	94	94	93
73	92	90	88	87	85	85	84	85	86	87	89	90	92	92	93	92	92
74	90	88	87	85	84	83	83	84	84	86	87	88	90	90	91	91	90
75	88	87	85	84	83	82	82	82	83	84	86	87	88	89	89	89	88
76	87	85	84	83	82	81	81	81	81	83	84	85	86	87	87	87	87
77	85	84	83	81	80	79	79	80	80	81	82	84	85	85	86	86	85
78	84	82	81	80	79	78	78	78	79	80	81	82	83	83	84	84	84
79	82	81	80	79	78	77	77	77	77	78	79	80	81	82	82	82	82
80	81	80	79	78	77	76	75	76	76	77	78	79	80	80	81	81	81
81	79	78	77	76	75	75	74	74	75	75	76	77	78	79	79	79	79
82	78	77	76	75	74	73	73	73	73	74	75	76	76	77	77	77	78
83	76	76	75	74	73	72	72	72	72	72	73	74	75	75	76	76	76
84	75	74	73	73	72	71	71	71	70	71	72	73	73	74	74	74	75
85	73	73	72	71	71	70	69	69	69	70	70	71	72	72	73	73	73
86	72	71	71	70	70	69	68	68	68	68	69	70	70	71	71	71	72

Laboratory: Hopestar Test Lab Limited, NVLAP Code: 600245-0
Add: Room 212, 24 Building, 7 Qingyi Road, Hi-Tech Zone, Ningbo, China
www.hopestartest.com

Report Format Number HL-Report-EEL-001



Report No.: RHL21101802-9

87	71	70	70	69	68	68	67	67	67	67	67	68	69	69	70	70	71
88	69	69	68	68	67	66	66	66	65	66	66	67	67	68	68	68	69
89	68	68	67	67	66	65	65	65	64	64	65	65	66	66	67	67	68
90	66	66	66	65	65	64	64	63	63	63	63	64	64	65	65	66	66
91	65	65	65	64	64	63	62	62	62	62	62	63	63	63	64	64	65
92	64	64	63	63	63	62	61	61	60	60	61	61	62	62	62	63	64
93	62	62	62	62	61	61	60	60	59	59	60	60	60	61	61	61	62
94	61	61	61	61	60	60	59	59	58	58	58	59	59	59	60	60	61
95	60	60	60	60	59	58	58	57	57	57	57	57	58	58	58	59	60
96	58	59	59	59	58	57	57	56	56	56	56	56	56	56	57	57	58
97	57	57	58	57	57	56	56	55	55	55	55	55	55	55	56	56	57
98	56	56	56	56	56	55	55	54	54	53	53	54	54	54	54	55	56
99	55	55	55	55	55	54	54	53	52	52	52	52	53	53	53	54	55
100	54	54	54	54	54	53	52	52	51	51	51	51	51	51	52	52	54
101	52	53	53	53	53	52	51	51	50	50	50	50	50	50	51	51	52
102	51	52	52	52	52	51	50	50	49	49	49	49	49	49	50	50	51
103	50	50	51	51	51	50	49	49	48	48	48	48	48	48	48	49	50
104	49	49	50	50	50	49	48	48	47	47	46	47	47	47	47	48	49
105	48	48	49	49	49	48	47	47	46	46	45	45	46	46	46	47	48
106	47	47	48	48	47	47	46	46	45	45	44	44	44	45	45	46	47
107	46	46	47	47	46	46	45	45	44	44	43	43	43	43	44	44	46
108	44	45	46	46	46	45	44	44	43	43	42	42	42	42	43	43	44
109	43	44	44	45	44	44	43	43	42	42	41	41	41	41	42	42	43
110	42	43	43	44	43	43	42	42	41	41	40	40	40	40	41	41	42
111	41	42	42	43	43	42	41	41	40	40	39	39	39	39	40	40	41
112	40	41	42	42	42	41	40	40	39	39	38	38	38	38	39	39	40
113	39	40	40	41	41	40	40	39	38	38	37	37	37	37	38	38	39
114	38	39	39	40	40	39	39	38	37	37	36	36	36	36	37	37	38
115	37	38	39	39	39	38	38	37	36	36	36	35	35	35	36	36	37
116	36	37	38	38	38	37	37	36	36	35	35	34	34	35	35	35	36
117	36	36	37	37	37	36	36	35	35	34	34	34	34	34	34	34	36
118	35	35	36	36	36	36	35	35	34	33	33	33	33	33	33	34	35
119	34	34	35	35	35	35	34	34	33	32	32	32	32	32	32	33	34
120	33	34	34	34	34	34	33	33	32	32	31	31	31	31	31	32	33
121	32	33	33	34	34	33	33	32	31	31	30	30	30	30	31	31	32
122	31	32	32	33	33	32	32	31	30	30	30	29	29	29	30	30	31
123	30	31	32	32	32	31	31	31	30	29	29	29	29	29	29	29	30
124	30	30	31	31	31	31	30	30	29	28	28	28	28	28	28	29	30
125	29	30	30	30	30	30	29	29	28	28	27	27	27	27	27	28	29
126	28	29	29	30	30	29	29	28	27	27	27	26	26	26	27	27	28
127	27	28	29	29	29	28	28	28	27	26	26	26	26	26	26	26	27
128	27	27	28	28	28	28	27	27	26	26	25	25	25	25	25	26	27
129	26	27	27	27	27	27	27	26	25	25	24	24	24	24	24	25	26
130	25	26	26	27	27	26	26	25	25	24	24	24	24	24	24	24	25
131	25	25	26	26	26	26	25	25	24	24	23	23	23	23	23	24	25

Laboratory: Hopestar Test Lab Limited, NVLAP Code: 600245-0
Add: Room 212, 24 Building, 7 Qingyi Road, Hi-Tech Zone, Ningbo, China
www.hopestartest.com

Report Format Number HL-Report-EEL-001



132	24	25	25	25	25	25	25	24	23	23	22	22	22	22	23	23	24
133	23	24	24	25	25	24	24	24	23	22	22	22	22	22	22	22	23
134	23	23	24	24	24	24	23	23	22	22	21	21	21	21	21	22	23
135	22	23	23	23	23	23	23	22	22	21	21	21	21	21	21	21	22
136	22	22	22	23	23	22	22	22	21	20	20	20	20	20	20	21	22
137	21	21	22	22	22	22	21	21	20	20	20	19	19	19	20	20	21
138	20	21	21	21	22	21	21	21	20	19	19	19	19	19	19	19	20
139	20	20	21	21	21	21	20	20	19	19	18	18	18	18	19	19	20
140	19	20	20	20	20	20	20	19	19	18	18	18	18	18	18	18	19
141	19	19	20	20	20	19	19	19	18	18	17	17	17	17	18	18	19
142	18	19	19	19	19	19	19	18	18	17	17	17	17	17	17	17	18
143	18	18	19	19	19	18	18	18	17	17	16	16	16	16	17	17	18
144	17	18	18	18	18	18	18	17	17	16	16	16	16	16	16	16	17
145	17	17	17	18	18	17	17	17	16	16	16	15	15	15	16	16	17
146	16	17	17	17	17	17	17	16	16	15	15	15	15	15	15	16	16
147	16	16	16	17	17	16	16	16	15	15	15	15	15	15	15	15	16
148	15	16	16	16	16	16	16	15	15	14	14	14	14	14	14	15	15
149	15	15	16	16	16	15	15	15	14	14	14	14	14	14	14	14	15
150	14	15	15	15	15	14	15	14	14	14	13	13	13	13	14	14	14
151	14	14	15	15	14	14	14	14	13	13	13	13	13	13	13	13	14
152	14	14	14	14	14	13	13	13	13	13	13	13	13	13	13	13	14
153	13	13	14	14	13	13	12	13	12	12	12	12	12	12	12	13	13
154	13	13	13	13	13	12	11	12	12	12	12	12	12	12	12	12	13
155	12	13	13	13	13	11	10	12	12	12	11	11	11	11	12	12	12
156	12	12	12	13	12	11	8	11	11	11	11	11	11	11	11	11	12
157	12	12	12	12	12	10	7	11	11	11	11	11	11	11	11	11	12
158	11	11	12	12	11	10	6	10	10	10	10	10	10	10	10	11	11
159	11	11	11	11	11	9	7	10	10	10	10	10	10	10	10	10	11
160	11	11	11	11	10	9	7	9	10	10	10	10	10	10	10	10	11
161	10	10	10	11	10	9	8	9	9	9	9	9	9	9	9	10	10
162	10	10	10	10	10	9	8	9	9	9	9	9	9	9	9	9	10
163	9	10	10	10	9	9	8	8	8	9	9	9	9	9	9	9	9
164	9	9	9	9	9	8	7	8	8	8	8	8	8	8	8	9	9
165	9	9	9	9	8	8	7	8	8	8	8	8	8	8	8	8	9
166	8	8	8	8	8	8	7	7	7	7	8	8	7	8	8	8	8
167	8	8	8	8	7	7	7	7	7	7	7	7	7	7	7	7	8
168	7	7	8	7	7	7	6	6	7	7	7	7	7	7	7	7	7
169	7	7	7	7	7	6	6	6	6	6	6	6	6	6	6	7	7
170	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
171	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	6	6
172	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	5	5
173	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	5	5
174	4	4	4	4	3	3	3	3	3	3	3	3	4	4	4	4	4
175	3	3	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3
176	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1

Laboratory: Hopestar Test Lab Limited, NVLAP Code: 600245-0
Add: Room 212, 24 Building, 7 Qingyi Road, Hi-Tech Zone, Ningbo, China
www.hopestartest.com



Report No.: RHL21101802-9

177	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
178	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1



3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	91N827816	2022-09-26
AC Power Source	CHP-1000	213630	2022-09-19
Total Luminous Flux Standard Lamp	24V150W	24V150W	2022-08-10
Digital Power Meter	WT500	TBS1012 C020506	2022-09-19
Integral Sphere (2M)	2m sphere	N.A	N/A
Digital Power Meter	PF310A	P609877CD1391157	2022-04-02
Optical Color and Electrical Measurement System	HAAS-2000	M108544CM5351115	2022-09-26
Expand Uncertainty: Photometric Measurement (Sphere): 2.08%, k=2 Chromaticity Measurement(Sphere):25.6K, k=2 Photometric Measurement(Goniophotometer):2.645%, k=2			

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