



Report No.: BLC2009007E-D

## LM-79-08 Test Report

For

# LEDVANCE LLC

(Brand Name: SYLVANIA)

200 Ballardvale St. Wilmington, MA 01887 USA

## LED Corn Lamp

Model name(s): LED36HIDRSC2MED

Representative (Tested) Model:  
LED36HIDRSC2MED(3000K)  
LED36HIDRSC2MED(4000K)  
LED36HIDRSC2MED(5000K)

Model Different: All construction and rating are the same, except CCT

Test & Report By:

*Grace Li*

Engineer: Grace Li

Date: 2020-09-11

Review By:


*Jason Luo*

Manager: Jason Luo



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### 1.1 Product Information:

Organization Name	LEDVANCE LLC	
Brand Name	SYLVANIA	
Model Number	LED36HIDRSC2MED	
SKU (if available)	N/A	
Type of Product (for integral lamps, list base type and lamp type)	LED Corn Lamp	
Rated Voltage / Frequency	100-277Vac, 50/60 Hz	
Nominal Power	36W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K, 4000K, 5000K	
LED Manufacturer	Lumileds	
LED Model	L128-XX80RA35000H1	
Sample Number	BLC2009007E-D1(3000K), D2(4000K), D3(5000K)	
Luminaire Aperture (for downlights)	--	in. mm mm s
Luminaire Length	--	
Luminaires Width	--	
Number of Units (modular products)	N/A	
Photo		
		



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## 1.2 Test Specifications:

Date of Receipt	2020-09-07
Date of Test	2020-09-11
Test item	<ol style="list-style-type: none"><li>1. Total Luminous Flux</li><li>2. Luminous Distribution Intensity</li><li>3. Luminous Efficacy</li><li>4. Correlated Color Temperature</li><li>5. Color Rendering Index</li><li>6. Chromaticity Coordinate</li><li>7. Electrical Parameters</li></ol>
Reference Standard	<ol style="list-style-type: none"><li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li><li>2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products</li><li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li><li>4. CIE 15-2004 Technical Report Colorimetry</li><li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li><li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li></ol>
Reference Work Instruction	BL-QP-033

## 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  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  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.



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**2.1 Electrical, Photometric and Chromaticity Measurements**

(Refer to Work Instruction BL-QP-033)

<b>Test date</b>	2020-09-11	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	LED36HIDRSC2MED(3000K)		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC200900	120.1	60	0.316	37.41	0.986	11.85
7E-D1	277.1	60	0.146	37.18	0.92	10.72
<b>DLC Pass Criteria</b>					$\geq 0.9(-3\%)$	$\leq 20(+5)$

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	2
Frequency (Hz)	60	R2	91	R10	81
CCT (K)	2924	R3	95	R11	79
Duv	0.0007	R4	80	R12	72
Chromaticity (x, y)	x=0.4435 y=0.4081	R5	81	R13	83
Chromaticity (u', v')	u(u')=0.2531 v'=0.5239	R6	91	R14	98
Color Rendering Index (CRI)	82	R7	80	R15	72
R9	2	R8	56	--	--
Rf	85				
Rg	94				
Rcs,h1(%)	-12				

**Photometric Measurement – Goniophotometer Method:**

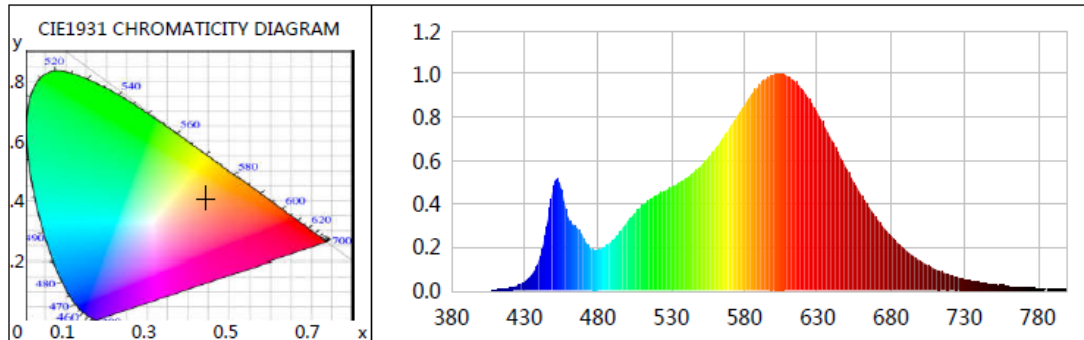
Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	5363.8	5342.5
Luminous Efficacy (lm/W)	143.38	143.69
Most worst Luminous/Highest	142.81	
Beam Angle (°)	--	--
Center Beam Candle Power (cd)	211	--



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## Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0000	0.0044	525	0.4587	51.6148	670	0.3338	37.5615
385	0.0001	0.0158	530	0.4763	53.5860	675	0.2898	32.6052
390	0.0007	0.0797	535	0.4938	55.5539	680	0.2512	28.2648
395	0.0003	0.0306	540	0.5176	58.2363	685	0.2156	24.2571
400	0.0007	0.0814	545	0.5432	61.1160	690	0.1851	20.8298
405	0.0009	0.1048	550	0.5734	64.5164	695	0.1591	17.8986
410	0.0022	0.2493	555	0.6109	68.7340	700	0.1352	15.2126
415	0.0052	0.5858	560	0.6525	73.4199	705	0.1152	12.9648
420	0.0111	1.2478	565	0.7013	78.9021	710	0.0979	11.0103
425	0.0211	2.3699	570	0.7508	84.4701	715	0.0835	9.3932
430	0.0402	4.5195	575	0.8055	90.6331	720	0.0711	8.0030
435	0.0744	8.3661	580	0.8584	96.5777	725	0.0606	6.8135
440	0.1414	15.9068	585	0.9053	101.8590	730	0.0510	5.7404
445	0.2944	33.1237	590	0.9488	106.7526	735	0.0427	4.7999
450	0.4927	55.4394	595	0.9800	110.2575	740	0.0374	4.2070
455	0.4685	52.7140	600	0.9974	112.2212	745	0.0325	3.6516
460	0.3336	37.5367	605	0.9991	112.4153	750	0.0269	3.0214
465	0.2933	33.0015	610	0.9891	111.2845	755	0.0238	2.6749
470	0.2439	27.4400	615	0.9627	108.3107	760	0.0201	2.2581
475	0.1922	21.6297	620	0.9260	104.1853	765	0.0169	1.8990
480	0.1860	20.9277	625	0.8748	98.4271	770	0.0142	1.6001
485	0.2030	22.8453	630	0.8182	92.0529	775	0.0118	1.3329
490	0.2296	25.8371	635	0.7546	84.8984	780	0.0104	1.1754
495	0.2699	30.3667	640	0.6904	77.6771	785	0.0076	0.8499
500	0.3158	35.5305	645	0.6230	70.0939	790	0.0084	0.9403
505	0.3551	39.9503	650	0.5582	62.8037	795	0.0060	0.6733
510	0.3903	43.9117	655	0.4966	55.8758	800	0.0044	0.4910
515	0.4177	46.9944	660	0.4370	49.1692			
520	0.4392	49.4128	665	0.3840	43.2061			

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TM30

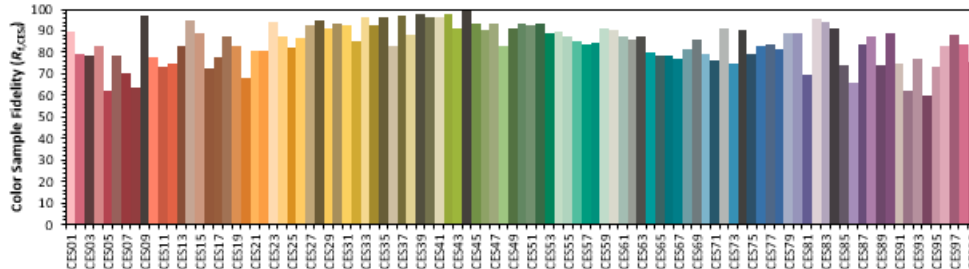
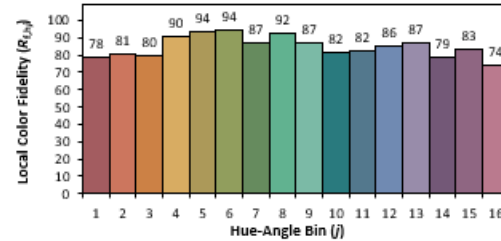
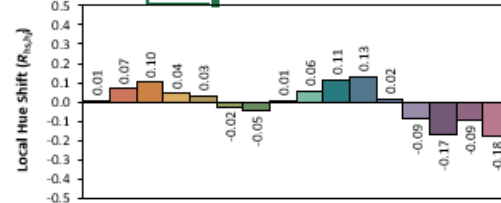
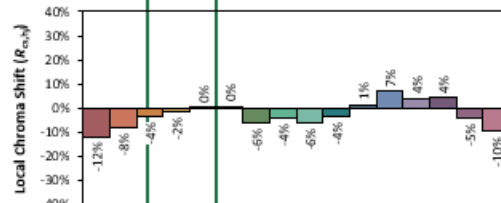
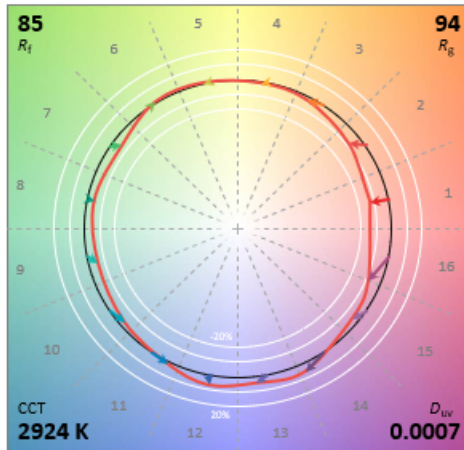
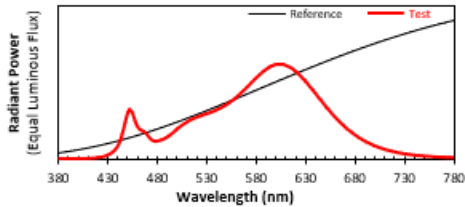
### ANSI/IES TM-30-18 Color Rendition Report

Source: L128-3080RA35000H1

Date: 2020/9/11

Manufacturer: ASMAIT LIGHT CO., LTD

Model: LED36HIDRSC2MED(3000K)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

$x$  0.4435  
 $y$  0.4081  
 $u'$  0.2531  
 $v'$  0.5239

CIE 13.3-1995  
(CRI)

$R_2$  82  
 $R_9$  2

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

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## Zonal Lumen Tabulation

### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	246.8	4.6%	4.6%
0-40	502.2	9.4%	9.4%
0-60	1,331.5	24.8%	24.8%
60-90	1,634.1	30.5%	30.5%
70-100	1,682.1	31.4%	31.4%
90-120	1,547.2	28.8%	28.8%
0-90	2,965.6	55.3%	55.3%
90-180	2,398.5	44.7%	44.7%
0-180	5,364.1	100%	100%

### Lumens Per Zone

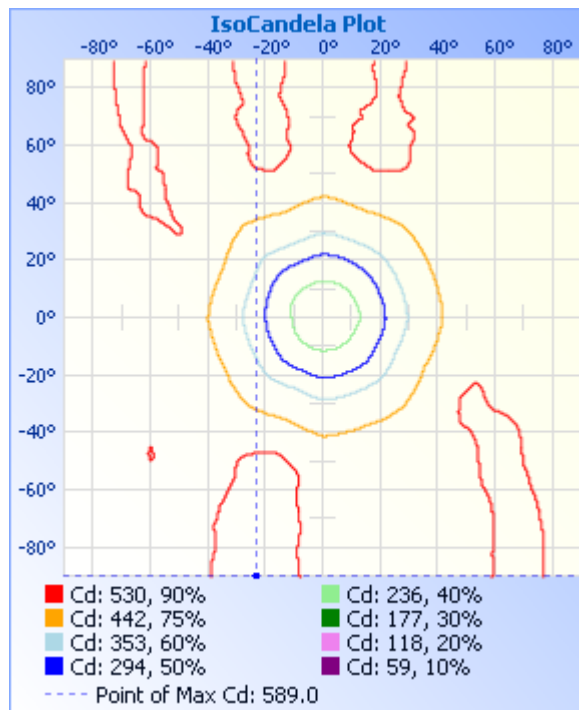
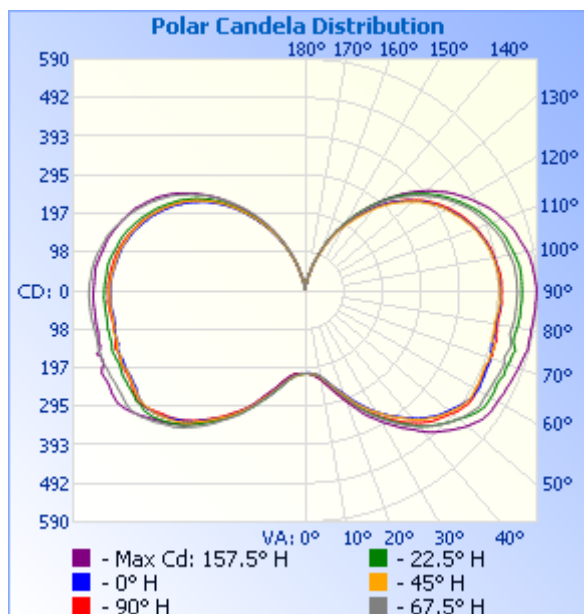
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	20.8	0.4%	90-100	564.6	10.5%
10-20	73.1	1.4%	100-110	526.5	9.8%
20-30	152.9	2.9%	110-120	456.1	8.5%
30-40	255.4	4.8%	120-130	362.8	6.8%
40-50	367.1	6.8%	130-140	255.0	4.8%
50-60	462.1	8.6%	140-150	149.3	2.8%
60-70	516.6	9.6%	150-160	66.7	1.2%
70-80	550.2	10.3%	160-170	16.4	0.3%
80-90	567.3	10.6%	170-180	1.1	0%



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## Photometric Data







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**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	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211	211
1	210	211	212	211	211	212	212	211	212	212	212	211	211	211	211	211	210
2	211	211	212	212	212	213	212	211	212	213	212	211	211	212	211	211	211
3	211	212	212	213	212	213	213	213	213	214	214	212	211	211	211	211	211
4	212	212	213	213	212	214	215	214	215	216	215	214	212	213	212	211	212
5	212	214	214	214	215	217	216	215	216	217	217	216	212	213	213	212	212
6	213	214	214	215	218	218	218	218	217	218	218	217	212	214	214	213	213
7	214	215	215	216	220	221	221	221	219	220	220	219	214	215	216	215	214
8	217	218	218	217	223	224	224	223	222	223	222	221	216	217	218	217	217
9	218	220	220	220	226	227	227	227	226	226	225	224	219	221	219	219	218
10	222	223	224	226	231	231	232	230	229	230	230	228	224	225	223	222	222
11	225	228	228	229	235	236	235	235	234	233	233	233	227	229	227	225	225
12	230	232	233	235	240	241	241	241	239	239	237	238	231	233	232	230	230
13	235	237	237	240	245	247	246	248	245	245	244	243	236	238	236	235	235
14	240	244	243	246	251	254	251	255	251	252	250	249	241	243	241	240	240
15	246	250	248	252	258	260	259	261	258	258	255	255	247	250	247	246	246
16	252	256	254	259	266	268	265	268	264	265	261	261	254	256	253	253	252
17	258	263	261	265	272	276	272	276	271	270	267	268	261	263	260	259	258
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28	340	356	343	357	352	362	357	368	351	356	350	357	345	348	343	347	340
29	348	363	350	365	360	369	364	376	358	363	358	365	352	354	351	355	348



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30	355	370	357	373	367	377	372	385	366	370	365	373	358	362	358	362	355
31	363	378	363	381	375	385	381	393	373	377	373	380	366	369	366	370	363
32	370	386	371	389	383	393	388	401	381	386	379	388	374	376	374	378	370
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44	449	477	453	478	463	486	473	499	459	472	464	482	457	464	456	473	449
45	454	482	458	484	467	491	477	505	464	478	470	487	463	469	461	480	454
46	460	488	464	489	471	495	483	512	470	484	474	491	468	475	467	485	460
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50	477	510	481	509	487	511	503	538	491	503	491	514	484	495	487	508	477
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53	489	527	493	521	499	519	510	553	501	511	499	529	499	510	500	527	489
54	493	532	495	525	501	522	511	558	502	511	502	533	504	512	505	533	493
55	497	537	498	528	505	524	511	560	503	510	503	537	507	519	507	539	497
56	500	541	501	532	507	525	512	563	504	511	503	539	510	522	509	544	500
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59	505	545	501	531	506	523	509	565	499	511	501	538	508	524	511	556	505
60	507	545	501	532	502	522	507	566	496	511	501	538	507	521	510	557	507
61	508	546	501	533	502	521	506	566	496	511	499	537	503	520	509	557	508

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62	506	546	501	533	502	521	506	568	496	512	499	538	502	521	506	557	506
63	505	544	500	534	501	522	507	570	495	511	498	538	500	520	506	556	505
64	505	544	499	534	501	524	507	569	495	512	497	538	500	521	506	555	505
65	505	544	498	535	501	524	508	571	496	512	497	539	500	524	506	555	505
66	503	547	497	537	502	525	508	573	497	511	497	541	502	526	506	555	503
67	503	550	495	538	502	527	509	574	498	510	500	541	502	526	507	558	503
68	504	548	498	538	502	528	509	575	497	509	502	542	503	526	509	559	504
69	504	549	501	541	501	530	511	577	497	509	501	543	502	526	505	554	504
70	502	550	500	540	502	531	512	578	497	511	500	545	502	528	502	546	502
71	500	551	499	535	504	532	511	579	501	512	498	547	500	528	503	545	500
72	498	552	502	536	500	531	512	580	499	514	502	546	501	524	508	546	498
73	497	552	501	538	503	524	510	582	499	514	500	545	505	522	506	554	497
74	495	557	502	541	499	525	510	583	494	512	497	546	502	522	503	543	495
75	495	552	493	543	504	526	514	587	495	510	496	545	499	527	505	540	495
76	494	546	491	540	501	527	514	585	496	510	496	545	497	524	501	542	494
77	495	545	493	537	498	531	513	584	496	511	498	543	496	522	500	539	495
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79	493	546	491	534	497	524	508	585	492	512	494	545	497	523	499	537	493
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81	493	549	491	537	496	525	506	585	492	510	494	546	496	525	498	539	493
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83	495	551	493	539	498	525	507	585	492	510	495	549	498	527	501	538	495
84	496	551	495	538	499	526	508	586	494	511	496	549	499	527	503	538	496
85	498	550	496	539	500	526	509	587	495	511	497	549	500	528	504	538	498
86	499	551	496	539	501	526	509	588	496	511	497	550	502	529	504	539	499
87	499	552	496	539	501	527	509	587	496	512	497	550	502	529	504	540	499
88	498	552	496	540	500	527	510	589	495	513	496	550	501	530	503	540	498
89	497	552	496	540	500	527	510	589	496	511	497	551	501	530	504	540	497
90	497	552	496	540	500	527	510	589	496	512	498	550	501	530	504	539	497
91	497	552	496	539	500	527	510	589	496	511	497	549	501	530	504	538	497
92	496	552	494	539	500	526	510	587	495	510	497	549	501	530	504	537	496
93	495	551	495	539	500	525	508	586	494	509	496	547	500	529	503	537	495

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94	495	552	495	538	499	524	507	585	493	508	495	546	499	529	502	537	495
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106	473	524	472	514	477	502	485	554	470	487	472	521	477	507	480	515	473
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109	464	512	462	502	468	491	477	540	462	476	465	508	467	495	470	505	464
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113	448	494	447	483	453	476	459	520	446	460	450	490	451	478	455	492	448
114	445	489	442	480	449	473	456	515	441	456	445	486	448	473	450	488	445
115	440	484	438	475	445	469	452	508	438	451	441	480	443	468	447	484	440
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117	430	472	428	464	436	458	442	494	428	441	432	468	433	458	437	474	430
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120	416	455	414	446	421	444	427	475	413	427	417	453	419	441	421	458	416
121	412	447	411	441	416	438	422	467	408	420	412	446	413	436	418	452	412
122	406	441	404	434	411	433	417	460	403	415	408	440	407	430	412	447	406
123	399	435	400	429	406	428	411	453	398	409	401	433	401	423	407	440	399
124	394	429	393	422	400	422	405	446	392	404	396	426	396	418	402	433	394
125	389	422	386	415	393	416	399	438	385	399	390	421	390	410	396	427	389

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126	383	415	381	408	387	409	393	429	380	393	385	412	384	404	389	420	383
127	377	407	375	401	381	403	386	421	373	386	378	405	378	397	383	413	377
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156	129	134	128	136	132	134	131	134	125	128	128	135	128	140	134	135	129
157	121	125	118	126	122	124	120	124	116	118	117	125	118	131	126	125	121

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159	101	104	99	106	101	103	101	104	98	100	97	105	98	109	107	106	101
160	92	94	91	97	93	94	92	95	90	91	89	95	89	99	98	96	92
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180	4	4	4	4	3	3	4	4	4	4	4	4	3	4	4	4	4



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**2.2 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

<b>Test date</b>	2020-09-11	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	LED36HIDRSC2MED(4000K)		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC200900	120.1	60	0.307	36.42	0.986	12.11
7E-D2	277.1	60	0.142	36.21	0.917	10.76
<b>DLC Pass Criteria</b>					$\geq 0.9(-3\%)$	$\leq 20(+5)$

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	83	R9	12
Frequency (Hz)	60	R2	92	R10	80
CCT (K)	3731	R3	96	R11	83
Duv	-0.0007	R4	83	R12	65
Chromaticity (x, y)	x=0.3925 y=0.3824	R5	84	R13	86
Chromaticity (u', v')	u(u')=0.2308 v'=0.5058	R6	89	R14	99
Color Rendering Index (CRI)	84	R7	84	R15	77
R9	12	R8	64	--	--
Rf	85				
Rg	95				
Rcs,h1(%)	-11				

**Photometric Measurement – Sphere-Spectroradiometer Method:**

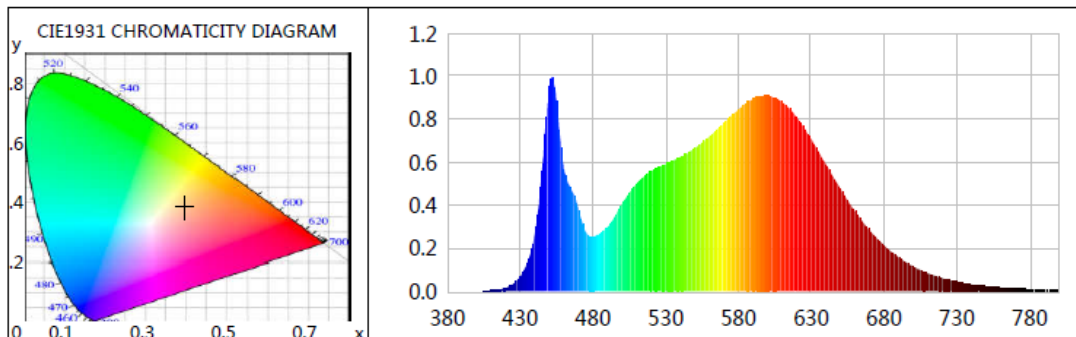
Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	5681.2	5606.0
Luminous Efficacy (lm/W)	155.99	154.82
Most worst Luminous/Highest Watts	153.93	



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## Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.0325	525	0.5752	65.1925	670	0.2825	32.0203
385	0.0005	0.0569	530	0.5901	66.8859	675	0.2452	27.7879
390	0.0003	0.0350	535	0.6054	68.6136	680	0.2126	24.0943
395	0.0006	0.0679	540	0.6243	70.7531	685	0.1828	20.7227
400	0.0011	0.1192	545	0.6404	72.5817	690	0.1569	17.7786
405	0.0014	0.1620	550	0.6658	75.4566	695	0.1349	15.2930
410	0.0031	0.3513	555	0.6901	78.2143	700	0.1149	13.0207
415	0.0071	0.8025	560	0.7199	81.5970	705	0.0988	11.1951
420	0.0154	1.7444	565	0.7521	85.2375	710	0.0841	9.5278
425	0.0329	3.7258	570	0.7820	88.6316	715	0.0710	8.0520
430	0.0678	7.6837	575	0.8166	92.5528	720	0.0605	6.8549
435	0.1332	15.1010	580	0.8477	96.0747	725	0.0516	5.8463
440	0.2620	29.6995	585	0.8719	98.8243	730	0.0436	4.9420
445	0.5589	63.3392	590	0.8955	101.4997	735	0.0362	4.0998
450	0.9530	108.0110	595	0.9079	102.9044	740	0.0312	3.5322
455	0.8795	99.6844	600	0.9096	103.0955	745	0.0283	3.2026
460	0.5714	64.7587	605	0.8990	101.8939	750	0.0226	2.5628
465	0.4763	53.9849	610	0.8811	99.8650	755	0.0210	2.3846
470	0.3796	43.0228	615	0.8496	96.2871	760	0.0157	1.7833
475	0.2754	31.2081	620	0.8086	91.6414	765	0.0126	1.4277
480	0.2534	28.7250	625	0.7595	86.0781	770	0.0120	1.3625
485	0.2698	30.5830	630	0.7062	80.0408	775	0.0112	1.2676
490	0.2973	33.6938	635	0.6488	73.5314	780	0.0075	0.8469
495	0.3469	39.3199	640	0.5903	66.9066	785	0.0063	0.7168
500	0.4056	45.9710	645	0.5312	60.2067	790	0.0084	0.9571
505	0.4565	51.7334	650	0.4763	53.9794	795	0.0053	0.6062
510	0.5007	56.7537	655	0.4210	47.7152	800	0.0045	0.5113
515	0.5320	60.2975	660	0.3711	42.0579			
520	0.5565	63.0717	665	0.3246	36.7908			

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TM30

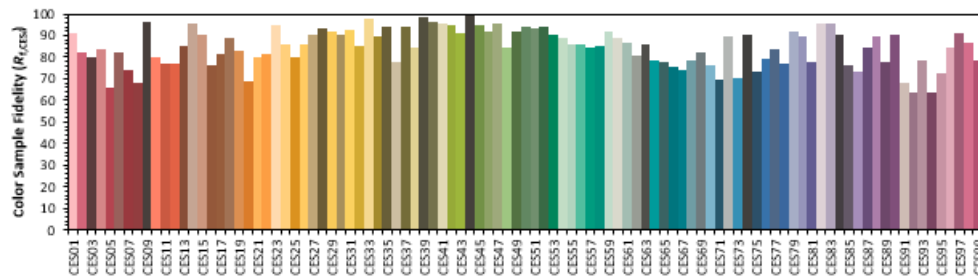
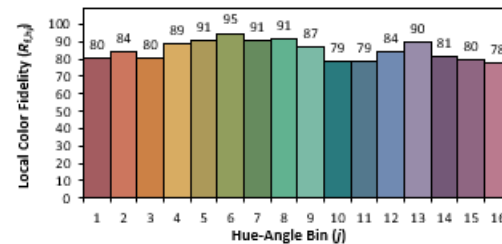
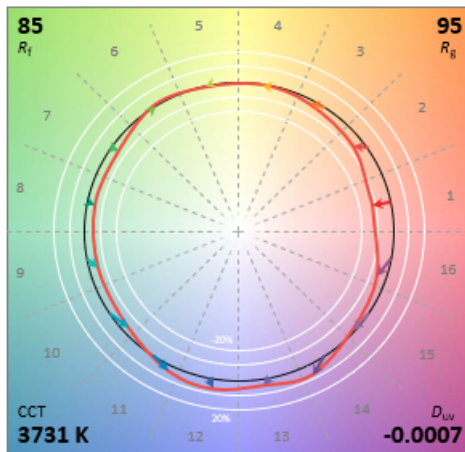
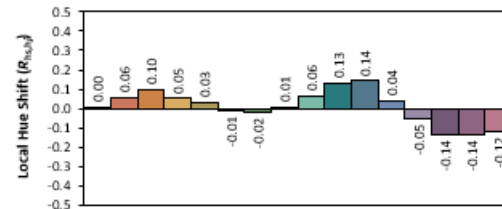
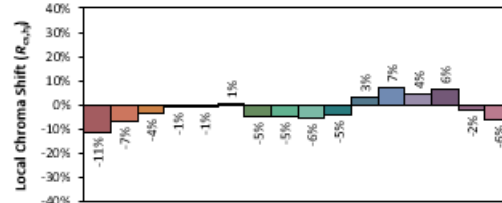
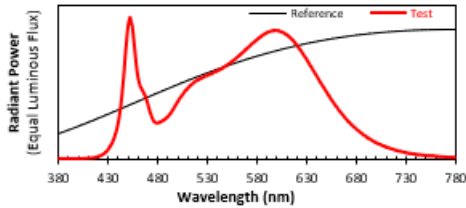
### ANSI/IES TM-30-18 Color Rendition Report

Source: L128-4080RA35000H1

Date: 2020/9/11

Manufacturer: ASMAIT LIGHT CO., LTD

Model: LED36HIDRSC2MED(4000K)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

$x$  0.3925  
 $y$  0.3824  
 $u'$  0.2308  
 $v'$  0.5058

CIE 13.3-1995  
(CRI)

$R_a$  84  
 $R_g$  12

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



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## Zonal Lumen Tabulation

### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	263.3	4.6%	4.6%
0-40	535.8	9.4%	9.4%
0-60	1,417.2	24.9%	24.9%
60-90	1,735.0	30.5%	30.5%
70-100	1,772.9	31.2%	31.2%
90-120	1,625.2	28.6%	28.6%
0-90	3,152.2	55.5%	55.5%
90-180	2,529.4	44.5%	44.5%
0-180	5,681.6	100%	100%

### Lumens Per Zone

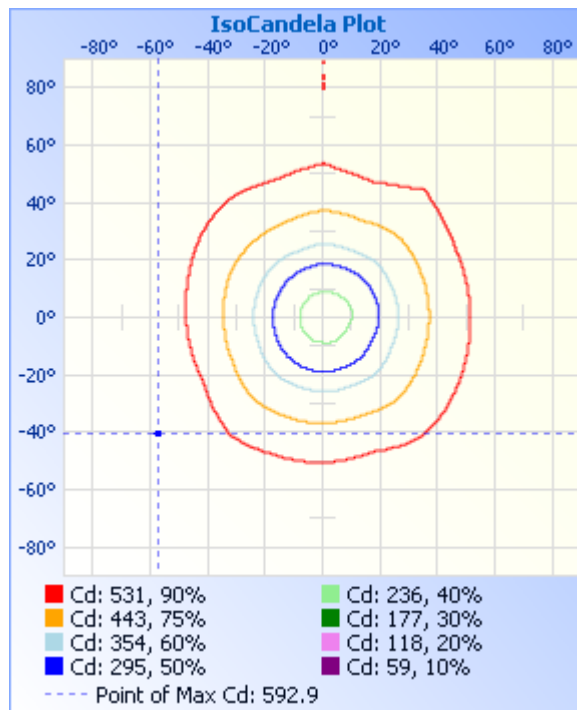
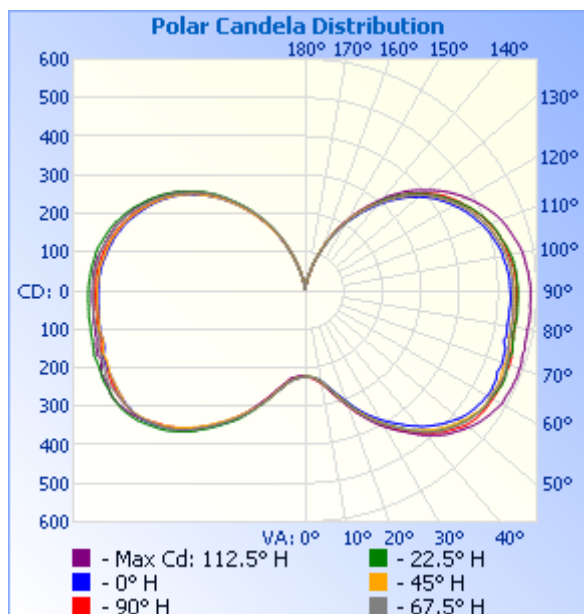
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	22.0	0.4%	90-100	591.8	10.4%
10-20	77.7	1.4%	100-110	552.8	9.7%
20-30	163.5	2.9%	110-120	480.6	8.5%
30-40	272.5	4.8%	120-130	383.4	6.7%
40-50	390.4	6.9%	130-140	270.9	4.8%
50-60	491.0	8.6%	140-150	159.3	2.8%
60-70	554.0	9.8%	150-160	71.5	1.3%
70-80	583.9	10.3%	160-170	17.8	0.3%
80-90	597.2	10.5%	170-180	1.2	0%



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## Photometric Data





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### 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
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6	227	227	228	228	230	229	230	230	230	230	230	230	227	225	226	226	227
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27	362	372	370	374	376	380	370	370	367	371	362	366	361	363	359	367	362
28	370	380	379	382	385	390	378	378	376	379	369	374	371	370	368	375	370
29	378	388	388	391	394	398	386	385	384	387	377	381	379	379	375	383	378

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30	385	396	395	398	404	406	394	394	392	394	384	390	387	386	383	391	385
31	392	404	404	405	411	414	402	403	400	402	392	398	397	394	391	400	392
32	400	412	412	413	419	422	410	410	407	410	400	405	405	402	398	408	400
33	408	419	421	421	429	431	417	417	416	419	408	413	414	410	405	416	408
34	415	427	429	428	436	438	424	425	424	427	415	422	420	418	413	425	415
35	421	436	437	437	444	446	432	433	432	435	424	430	429	426	421	432	421
36	429	444	446	446	452	454	439	441	439	444	432	439	437	434	428	440	429
37	438	452	453	454	460	463	446	449	447	451	440	446	445	441	435	448	438
38	445	461	460	462	467	473	454	456	454	462	448	455	452	451	442	458	445
39	452	468	467	471	475	481	462	464	462	470	456	463	461	459	450	464	452
40	459	476	473	479	482	490	469	472	470	477	463	471	467	468	457	474	459
41	466	483	479	486	490	497	476	479	476	484	470	479	474	475	464	481	466
42	473	490	486	492	496	505	484	487	484	491	478	486	480	483	471	489	473
43	479	496	492	498	503	511	491	494	490	498	486	493	485	490	478	495	479
44	485	502	498	504	511	519	498	501	496	505	492	498	492	496	484	500	485
45	491	507	503	511	517	525	504	507	503	512	498	504	498	503	491	506	491
46	496	512	508	514	521	530	511	513	509	517	505	509	504	508	495	512	496
47	502	517	514	520	526	535	516	518	515	523	511	514	509	513	501	517	502
48	507	521	518	525	531	541	522	524	520	527	516	518	514	517	505	521	507
49	511	526	524	529	538	546	527	528	525	532	521	523	521	522	510	526	511
50	517	529	525	533	543	551	531	533	530	538	526	527	526	528	515	532	517
51	521	534	532	537	546	557	535	537	534	542	531	532	531	533	520	537	521
52	525	538	536	541	549	561	539	539	539	548	535	536	537	539	524	542	525
53	529	541	538	544	552	566	542	542	542	551	538	541	541	543	528	547	529
54	531	544	543	546	554	569	545	543	544	555	542	543	545	549	530	551	531
55	534	548	546	549	556	572	547	545	546	558	546	547	547	553	532	555	534
56	537	551	549	551	557	576	548	547	546	562	548	548	547	556	533	560	537
57	539	554	551	554	559	578	549	550	548	564	549	549	549	560	537	563	539
58	541	555	553	554	559	581	550	551	550	566	550	553	551	564	537	564	541
59	542	555	553	554	560	584	551	553	548	568	550	553	552	567	538	567	542
60	545	556	552	554	560	588	552	555	549	569	548	554	555	568	540	568	545
61	546	558	552	554	562	588	551	555	549	570	549	556	555	570	541	569	546

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62	547	560	554	556	562	587	551	554	549	569	550	558	556	570	540	571	547
63	545	561	555	556	562	589	551	552	550	569	549	560	554	569	541	572	545
64	545	565	555	558	562	590	551	553	549	570	548	562	555	568	543	571	545
65	546	565	555	559	562	591	550	553	549	572	549	562	554	567	543	569	546
66	543	565	554	559	561	591	550	552	549	572	550	562	553	567	542	567	543
67	540	564	553	560	561	592	549	551	549	571	549	560	553	568	541	567	540
68	542	561	551	559	561	593	548	551	549	570	548	559	551	570	543	566	542
69	544	560	550	557	562	591	547	551	550	569	546	558	550	566	543	565	544
70	544	557	551	557	563	591	547	551	550	568	546	557	547	561	543	566	544
71	542	556	552	554	561	591	550	553	550	569	545	555	547	558	542	568	542
72	541	557	549	554	562	590	549	553	550	570	547	553	550	557	539	570	541
73	540	559	551	549	558	587	545	550	545	572	548	554	550	565	536	570	540
74	540	559	548	546	557	587	541	546	541	569	544	555	548	560	534	573	540
75	534	556	548	546	554	589	541	545	539	568	540	554	549	560	535	568	534
76	530	554	545	544	553	585	542	544	538	567	539	551	545	557	534	566	530
77	534	554	541	544	553	585	540	543	539	565	539	548	543	553	534	563	534
78	533	551	542	544	550	585	540	543	540	565	542	547	544	554	533	563	533
79	532	549	542	542	551	585	539	542	542	565	542	548	545	553	533	564	532
80	531	551	541	542	551	584	539	539	539	563	542	549	544	553	533	564	531
81	531	550	541	542	550	585	539	541	539	563	540	549	544	553	532	563	531
82	531	552	542	543	550	586	539	542	538	564	540	550	544	553	532	565	531
83	532	552	541	542	550	585	538	542	537	564	540	551	543	552	533	565	532
84	531	552	541	542	549	585	538	542	537	563	539	550	542	551	532	564	531
85	531	551	541	541	548	586	537	539	536	563	539	550	543	551	532	564	531
86	532	551	541	541	549	583	537	540	536	562	539	549	544	551	534	564	532
87	532	551	541	539	549	584	536	539	537	562	539	548	544	552	533	562	532
88	532	551	541	540	549	584	536	538	536	562	539	548	544	551	532	564	532
89	531	551	541	539	548	583	537	538	536	561	539	548	544	551	532	563	531
90	531	551	541	540	548	584	536	538	536	561	538	548	543	551	532	563	531
91	530	551	540	540	547	583	535	538	534	561	538	549	541	550	532	564	530
92	530	550	540	538	548	582	535	537	535	560	537	549	542	550	531	562	530
93	530	549	539	538	546	581	535	536	534	559	536	548	543	550	531	561	530

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94	529	548	538	537	546	580	533	536	534	558	537	547	542	550	530	561	529
95	528	548	537	536	545	579	533	534	533	558	536	546	541	549	529	560	528
96	526	547	536	536	544	576	532	533	532	556	535	545	540	548	528	559	526
97	525	545	534	534	542	575	530	532	530	555	534	543	539	547	527	558	525
98	523	545	533	534	540	574	527	530	529	553	532	541	536	546	525	557	523
99	521	543	530	532	537	573	525	529	527	552	528	541	535	544	524	556	521
100	520	540	529	530	535	571	524	528	523	551	527	541	532	542	521	553	520
101	519	538	527	526	534	569	522	527	523	549	525	539	532	539	519	551	519
102	516	535	524	524	532	566	521	524	520	547	524	535	528	536	517	547	516
103	513	532	523	521	530	563	518	522	518	544	522	533	525	533	515	545	513
104	510	528	518	518	528	559	516	518	515	540	520	529	523	531	511	542	510
105	507	525	515	515	525	556	513	515	514	537	518	526	519	528	508	540	507
106	504	523	512	512	522	553	510	511	511	535	514	523	517	526	505	535	504
107	501	520	510	509	519	550	507	510	507	532	511	521	514	523	503	532	501
108	498	518	507	506	515	547	504	507	503	529	508	519	511	521	500	529	498
109	494	514	504	503	512	543	501	503	501	525	505	515	507	518	497	525	494
110	491	510	500	499	508	539	497	500	498	521	501	512	504	514	493	521	491
111	487	506	494	495	504	535	493	496	495	515	498	508	500	509	488	516	487
112	481	501	490	491	501	530	489	492	490	512	493	503	495	505	484	512	481
113	478	497	486	487	496	524	484	488	485	507	489	499	491	502	481	506	478
114	474	492	482	482	491	519	479	484	480	503	484	494	488	498	477	503	474
115	469	488	478	478	485	513	474	479	476	498	480	489	483	495	472	498	469
116	465	483	473	473	481	507	470	474	472	493	476	484	478	489	468	492	465
117	460	477	468	468	476	501	465	469	467	487	471	479	473	484	462	486	460
118	455	470	462	463	471	495	460	463	463	481	465	473	466	479	458	480	455
119	449	464	456	458	466	488	456	457	457	475	460	467	462	473	452	475	449
120	443	459	451	452	460	481	450	453	452	469	455	462	457	469	446	469	443
121	438	452	445	446	455	476	443	446	447	464	449	457	452	462	440	463	438
122	432	445	439	441	449	468	438	442	442	457	444	452	446	456	434	455	432
123	426	439	433	435	443	461	432	436	436	451	439	444	440	450	429	449	426
124	420	433	427	428	438	454	425	430	430	445	432	439	434	444	424	442	420
125	415	426	421	422	432	447	420	423	424	438	425	432	427	436	418	435	415

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126	409	420	414	416	424	439	413	417	418	431	419	425	423	430	412	428	409
127	401	413	408	410	416	431	407	410	411	423	413	417	416	423	405	421	401
128	393	406	401	403	409	423	399	403	404	416	405	410	409	415	398	413	393
129	386	398	393	395	402	415	391	396	396	406	398	404	403	407	391	405	386
130	378	390	385	387	393	406	383	386	389	400	390	397	395	398	383	397	378
131	370	383	378	379	385	398	376	381	380	393	383	390	387	391	376	389	370
132	362	375	368	371	377	390	368	374	373	385	374	382	379	382	368	382	362
133	354	368	362	363	368	381	359	366	365	378	365	373	370	373	360	375	354
134	345	359	353	354	359	373	351	357	356	369	357	367	362	365	351	365	345
135	335	350	343	345	350	363	341	349	346	360	348	357	353	355	342	357	335
136	327	341	333	335	341	352	332	340	337	351	339	348	344	346	333	346	327
137	319	331	325	326	331	342	323	332	330	342	330	339	336	337	324	338	319
138	309	322	316	316	321	332	314	323	320	332	322	330	326	326	315	328	309
139	300	312	306	305	310	323	304	311	310	322	311	319	316	317	305	318	300
140	290	302	296	296	301	310	294	300	301	312	301	310	307	305	295	307	290
141	280	292	288	285	290	300	283	289	291	301	291	300	296	295	285	296	280
142	269	280	279	276	281	289	273	279	282	292	281	289	286	283	275	284	269
143	261	270	271	266	271	279	263	269	272	282	271	279	276	273	264	274	261
144	253	261	261	256	261	269	254	260	263	272	261	270	267	264	255	265	253
145	242	250	251	246	250	258	244	250	252	261	252	259	259	254	245	255	242
146	232	240	242	237	241	249	234	239	243	251	241	250	247	244	237	244	232
147	223	228	231	227	230	237	224	230	233	241	232	240	237	233	227	234	223
148	214	218	221	217	220	225	214	220	222	230	222	230	227	223	217	223	214
149	205	209	211	207	210	216	205	211	212	220	212	220	217	213	209	212	205
150	197	199	201	199	199	206	193	201	202	211	202	211	207	204	200	204	197
151	188	189	192	189	190	196	184	191	192	200	192	201	197	194	190	192	188
152	177	180	182	178	179	186	175	181	181	190	182	191	187	184	181	181	177
153	166	170	173	169	169	176	164	171	172	180	171	181	177	174	171	171	166
154	157	159	163	158	159	164	155	161	162	169	162	171	166	164	161	160	157
155	147	149	152	147	150	153	145	151	151	158	153	161	156	153	150	150	147
156	136	138	142	137	139	142	135	140	140	148	144	150	147	143	141	139	136
157	126	127	132	128	129	131	124	129	130	137	133	139	136	133	130	130	126

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158	117	117	121	117	118	119	114	119	119	125	122	128	126	123	119	119	117
159	107	107	111	108	107	110	105	108	109	114	112	117	116	112	110	108	107
160	98	97	101	98	97	100	94	99	100	104	102	107	106	102	100	98	98
161	89	89	91	89	88	91	85	90	90	96	92	98	97	93	91	89	89
162	81	81	83	81	80	80	77	81	81	86	84	89	87	85	84	80	81
163	72	72	73	72	71	72	68	72	72	77	75	81	78	76	76	71	72
164	64	64	65	64	61	63	59	63	64	68	67	71	70	67	67	65	64
165	56	54	56	55	53	53	51	54	55	59	59	62	61	58	59	56	56
166	49	47	49	47	46	46	44	47	47	51	51	55	54	50	51	49	49
167	42	41	41	41	39	39	38	40	41	44	44	47	45	44	44	41	42
168	35	34	34	34	33	32	31	34	35	37	36	39	39	37	37	35	35
169	30	28	28	28	27	26	25	28	29	31	31	33	32	32	31	29	30
170	25	24	24	23	21	21	21	22	23	24	25	27	27	27	26	25	25
171	20	19	19	18	17	17	16	18	19	20	21	22	21	21	21	20	20
172	16	15	14	15	14	13	13	14	15	16	17	17	17	17	17	16	16
173	12	12	12	12	10	10	10	11	11	12	13	14	13	13	13	12	12
174	9	9	9	9	8	7	8	9	9	10	10	11	10	11	10	10	9
175	8	7	7	7	6	6	7	6	7	8	8	8	7	8	8	6	8
176	6	6	6	5	4	4	5	5	6	6	6	6	5	6	5	6	6
177	5	4	3	4	3	4	3	5	4	5	5	6	3	4	4	4	5
178	4	4	4	3	3	3	4	3	3	4	3	4	3	4	4	4	4
179	4	4	4	2	3	3	3	3	4	4	4	4	3	3	4	4	4
180	4	4	4	4	2	3	3	4	4	4	4	4	3	3	4	4	4



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**2.2 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

<b>Test date</b>	2020-09-11	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	LED36HIDRSC2MED(5000K)		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC200900	120.1	60	0.315	37.42	0.987	11.51
7E-D3	277.1	60	0.146	37.25	0.921	10.42
<b>DLC Pass Criteria</b>					$\geq 0.9(-3\%)$	$\leq 20(+5)$

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	4
Frequency (Hz)	60	R2	88	R10	71
CCT (K)	4943	R3	94	R11	80
Duv	0.0035	R4	81	R12	55
Chromaticity (x, y)	x=0.3475 y=0.3605	R5	80	R13	82
Chromaticity (u', v')	u(u')=0.2096 v'=0.4893	R6	83	R14	97
Color Rendering Index (CRI)	82	R7	87	R15	74
R9	4	R8	66	--	--
Rf	83				
Rg	95				
Rcs,h1(%)	-13				

**Photometric Measurement – Sphere-Spectroradiometer Method:**

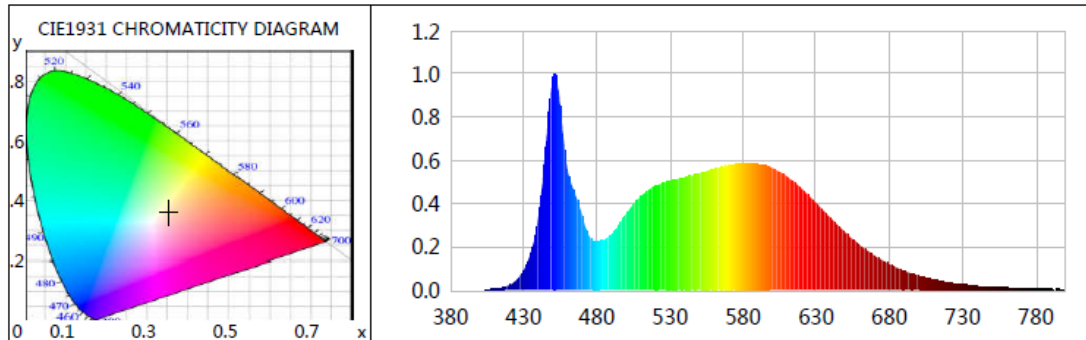
Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	5473.8	5455.2
Luminous Efficacy (lm/W)	146.28	146.45
Most worst Luminous/Highest Watts	145.78	



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## Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0001	0.0199	525	0.4947	73.1129	670	0.1584	23.4140
385	0.0008	0.1115	530	0.5036	74.4271	675	0.1380	20.4040
390	0.0002	0.0355	535	0.5122	75.7105	680	0.1187	17.5459
395	0.0005	0.0675	540	0.5223	77.1992	685	0.1036	15.3064
400	0.0007	0.1088	545	0.5297	78.2980	690	0.0896	13.2448
405	0.0017	0.2529	550	0.5402	79.8485	695	0.0766	11.3244
410	0.0035	0.5105	555	0.5491	81.1526	700	0.0656	9.6906
415	0.0096	1.4166	560	0.5587	82.5763	705	0.0565	8.3441
420	0.0214	3.1581	565	0.5695	84.1792	710	0.0478	7.0676
425	0.0450	6.6518	570	0.5758	85.1119	715	0.0415	6.1278
430	0.0910	13.4536	575	0.5836	86.2606	720	0.0348	5.1366
435	0.1745	25.7894	580	0.5868	86.7375	725	0.0297	4.3956
440	0.3317	49.0336	585	0.5866	86.7001	730	0.0249	3.6789
445	0.6566	97.0542	590	0.5840	86.3121	735	0.0212	3.1313
450	0.9895	146.2531	595	0.5763	85.1747	740	0.0196	2.8980
455	0.8524	125.9887	600	0.5647	83.4681	745	0.0169	2.4956
460	0.5577	82.4297	605	0.5471	80.8566	750	0.0133	1.9664
465	0.4499	66.5002	610	0.5264	77.8047	755	0.0123	1.8184
470	0.3408	50.3646	615	0.4998	73.8728	760	0.0105	1.5549
475	0.2472	36.5382	620	0.4699	69.4537	765	0.0086	1.2731
480	0.2240	33.1045	625	0.4363	64.4907	770	0.0073	1.0772
485	0.2335	34.5134	630	0.4026	59.5031	775	0.0060	0.8938
490	0.2567	37.9397	635	0.3677	54.3501	780	0.0048	0.7081
495	0.3005	44.4160	640	0.3333	49.2569	785	0.0032	0.4759
500	0.3518	52.0010	645	0.2977	44.0058	790	0.0042	0.6269
505	0.3964	58.5899	650	0.2665	39.3842	795	0.0027	0.4029
510	0.4341	64.1684	655	0.2354	34.7935	800	0.0028	0.4116
515	0.4608	68.1109	660	0.2066	30.5432			
520	0.4806	71.0368	665	0.1812	26.7829			



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## TM30

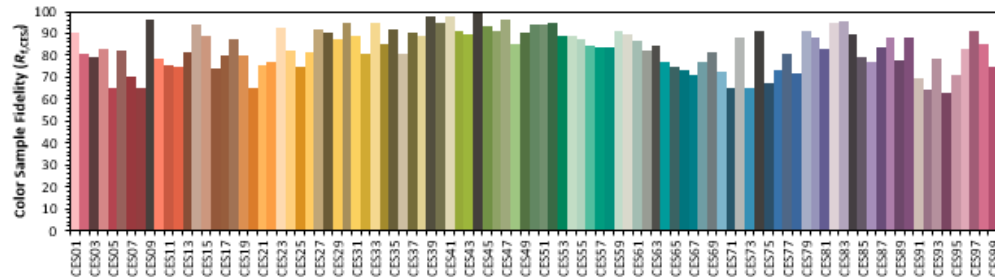
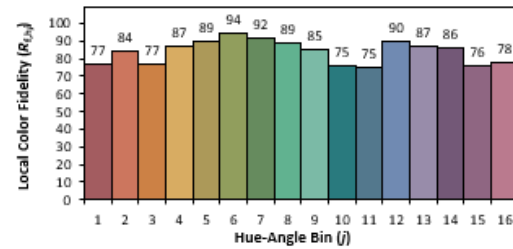
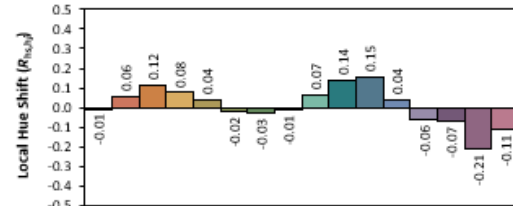
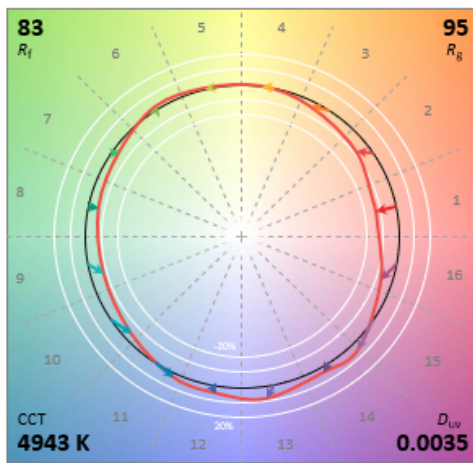
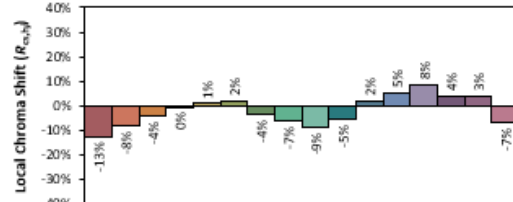
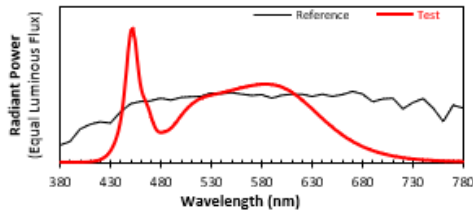
### ANSI/IES TM-30-18 Color Rendition Report

Source: L128-5080RA35000H1

Manufacturer: ASMAIT LIGHT CO., LTD

Date: 2020/9/11

Model: LED36HIDRSC2MED(5000K)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

$x$  0.3475

$y$  0.3605

$u'$  0.2096

$v'$  0.4893

CIE 13.3-1995  
(CRI)

$R_a$  82

$R_9$  4

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



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## Zonal Lumen Tabulation

### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	260.1	4.8%	4.8%
0-40	527.8	9.6%	9.6%
0-60	1,384.1	25.3%	25.3%
60-90	1,665.6	30.4%	30.4%
70-100	1,694.1	30.9%	30.9%
90-120	1,551.3	28.3%	28.3%
0-90	3,049.7	55.7%	55.7%
90-180	2,424.4	44.3%	44.3%
0-180	5,474.1	100%	100%

### Lumens Per Zone

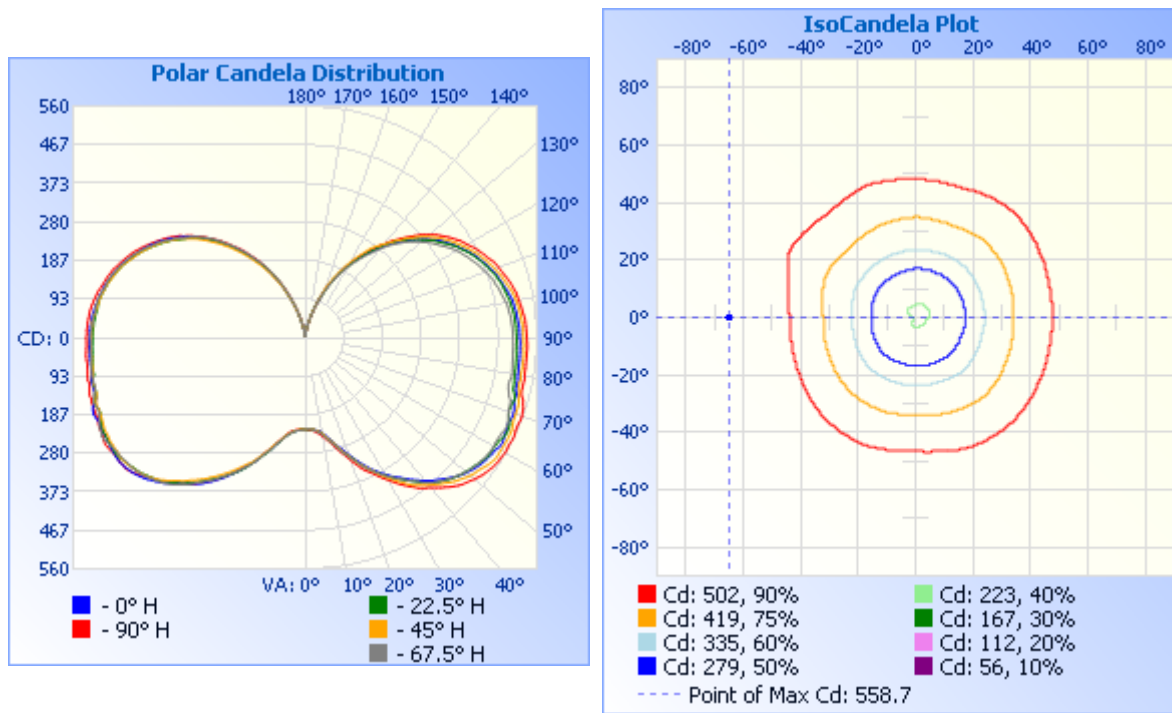
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	21.8	0.4%	90-100	564.0	10.3%
10-20	76.8	1.4%	100-110	527.7	9.6%
20-30	161.5	3.0%	110-120	459.6	8.4%
30-40	267.7	4.9%	120-130	367.7	6.7%
40-50	380.6	7.0%	130-140	261.4	4.8%
50-60	475.6	8.7%	140-150	155.0	2.8%
60-70	535.5	9.8%	150-160	70.3	1.3%
70-80	560.4	10.2%	160-170	17.6	0.3%
80-90	569.7	10.4%	170-180	1.2	0%



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## Photometric Data





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Certificate#4810.01

**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
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1	221	223	222	222	223	222	221	223	222	223	223	223	221	221	221	221	221
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3	221	222	221	222	225	223	223	223	223	223	222	225	222	221	220	220	221
4	222	222	223	223	226	224	224	224	225	225	224	225	223	222	221	222	222
5	223	224	223	224	226	225	225	225	226	226	225	226	224	223	222	223	223
6	224	225	225	226	228	227	226	227	227	227	226	228	225	224	224	224	224
7	226	227	227	228	230	230	228	228	229	229	228	229	226	225	225	225	226
8	228	229	228	230	234	232	231	231	231	232	231	232	229	227	227	227	228
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11	238	241	241	243	246	244	242	243	242	242	241	243	240	238	237	238	238
12	243	246	246	248	252	250	248	249	248	248	247	249	245	244	243	244	243
13	249	252	252	255	258	257	255	255	254	254	252	254	250	249	248	250	249
14	255	258	258	261	264	263	259	260	260	261	258	259	256	255	254	255	255
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16	269	273	272	275	280	278	273	276	275	275	271	274	272	269	269	268	269
17	276	280	280	283	288	286	281	284	282	283	278	283	279	278	276	276	276
18	282	289	288	291	295	294	289	291	289	291	287	289	286	286	283	284	282
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21	307	311	312	313	323	319	313	314	314	314	310	314	312	309	306	306	307
22	316	319	322	321	332	327	322	322	322	323	319	322	322	318	314	315	316
23	325	329	331	330	341	337	330	332	331	331	327	332	329	327	324	324	325
24	334	338	339	339	350	347	339	341	340	341	333	340	337	336	332	334	334
25	342	346	347	347	357	356	348	349	348	350	340	348	345	345	339	343	342
26	351	355	355	355	364	365	356	359	357	357	347	356	353	354	348	352	351
27	359	362	363	362	372	374	363	367	364	365	355	364	362	363	357	361	359
28	366	370	373	370	380	381	372	375	373	372	363	372	371	371	365	369	366
29	374	378	381	378	388	389	380	382	381	378	371	379	379	377	373	377	374

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

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Guangzhou, People's Republic of China. [info@bellingtest.com](mailto:info@bellingtest.com)

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32	396	401	406	399	415	411	403	404	406	401	393	403	404	400	395	400	396
33	402	407	415	406	423	419	411	411	415	408	401	410	413	408	401	407	402
34	408	414	423	413	431	427	419	418	422	414	408	418	420	415	407	415	408
35	416	421	433	420	439	435	426	426	430	422	416	425	427	423	415	422	416
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38	437	444	453	442	462	459	447	447	449	446	438	449	450	447	437	445	437
39	445	452	459	451	468	466	454	454	455	453	444	458	457	454	446	454	445
40	451	459	465	458	475	474	462	462	461	461	453	464	463	461	452	461	451
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42	465	472	477	471	489	487	476	476	475	473	465	477	474	475	466	475	465
43	470	477	483	476	495	494	483	483	482	478	473	484	480	480	471	480	470
44	476	481	489	480	502	501	491	489	489	485	480	489	485	486	477	485	476
45	482	487	495	485	509	505	498	493	495	491	487	494	491	492	484	490	482
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47	493	495	506	494	520	512	508	503	506	499	499	503	501	501	495	500	493
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53	520	514	529	515	544	535	533	524	532	521	523	523	534	521	520	523	520
54	523	518	534	517	547	538	535	527	536	524	526	524	537	524	522	529	523
55	525	521	538	519	550	540	537	529	538	528	528	525	538	527	522	532	525
56	528	524	541	521	553	544	539	533	539	530	531	528	540	530	522	534	528
57	529	527	544	523	554	547	541	536	540	534	532	530	539	532	523	538	529
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59	533	528	545	526	556	554	546	541	540	537	531	533	542	536	525	541	533
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61	539	530	546	525	558	557	547	540	539	538	533	537	546	540	525	546	539

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62	540	531	546	526	556	557	546	538	538	537	534	540	548	542	526	548	540
63	538	535	547	527	557	556	547	536	538	537	533	545	546	541	525	550	538
64	536	538	547	528	559	557	546	535	538	538	532	546	544	539	526	548	536
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70	536	523	541	523	557	552	539	535	544	527	528	530	539	534	533	534	536
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92	518	510	527	501	534	529	522	513	520	513	516	517	528	522	517	525	518
93	518	510	527	501	534	529	522	512	519	512	516	516	527	522	516	525	518

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94	516	509	525	500	533	527	522	511	519	512	516	515	527	520	516	525	516
95	515	508	524	500	533	526	521	510	518	511	515	515	526	519	515	523	515
96	514	508	523	499	531	525	520	509	517	510	513	514	525	521	514	523	514
97	514	507	522	497	529	524	518	508	514	508	510	511	524	520	513	522	514
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100	509	503	517	493	524	521	513	504	509	506	506	509	518	514	508	517	509
101	507	500	516	490	523	520	510	503	508	505	505	508	516	510	506	514	507
102	504	498	514	487	522	518	510	501	506	502	503	505	514	508	503	512	504
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104	498	495	507	483	516	512	505	495	501	497	498	500	508	504	497	507	498
105	495	493	504	480	513	511	502	492	500	495	496	498	505	501	494	505	495
106	493	490	501	477	510	509	500	490	496	493	492	497	502	499	492	503	493
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109	484	481	491	468	500	501	489	481	487	483	483	487	494	490	484	491	484
110	480	476	487	465	498	498	487	478	484	480	480	484	491	486	480	488	480
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112	472	470	480	457	491	490	478	472	477	473	473	477	482	476	471	480	472
113	468	465	476	453	485	485	474	467	472	468	468	473	478	473	468	476	468
114	463	462	472	449	480	481	470	463	466	464	463	469	474	468	464	473	463
115	460	457	468	444	477	476	465	459	464	460	459	464	470	466	460	468	460
116	455	453	464	441	472	471	461	455	458	455	455	460	466	460	455	463	455
117	450	448	458	436	469	466	456	450	453	451	451	454	461	454	451	458	450
118	445	444	453	431	463	461	451	445	450	446	446	450	455	449	446	453	445
119	440	437	449	427	457	455	446	441	446	440	440	444	451	445	440	448	440
120	434	432	442	422	452	448	441	435	439	434	435	439	445	440	436	443	434
121	429	428	437	417	447	441	436	430	436	429	430	433	439	435	429	437	429
122	424	422	432	411	443	437	431	424	429	424	425	428	434	428	424	432	424
123	418	415	426	405	436	431	424	418	426	418	419	423	428	422	419	424	418
124	412	408	420	398	430	424	419	413	419	412	414	417	423	416	414	417	412
125	407	402	414	392	424	418	412	407	412	406	408	410	417	409	408	411	407

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126	400	396	408	387	417	411	407	401	407	400	401	404	411	404	401	405	400
127	394	390	402	381	411	404	400	394	400	392	395	398	404	397	395	399	394
128	386	383	395	375	404	398	393	389	393	386	389	391	397	391	388	392	386
129	379	376	387	368	396	392	385	381	387	380	381	384	392	383	381	385	379
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136	322	326	329	316	334	339	327	330	329	330	323	335	335	331	323	332	322
137	313	319	321	308	324	331	317	322	320	322	314	326	327	322	315	324	313
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142	267	269	281	261	276	280	268	274	276	274	268	280	281	271	268	272	267
143	257	261	274	253	266	270	258	265	267	265	258	270	273	262	260	263	257
144	249	251	266	244	257	260	249	254	258	255	249	261	264	253	250	254	249
145	240	241	255	235	248	251	239	245	248	245	239	252	255	244	241	244	240
146	232	232	244	225	239	240	230	236	238	236	230	241	245	234	233	234	232
147	223	222	234	217	229	231	221	225	228	226	220	232	234	223	224	225	223
148	215	213	224	208	218	222	210	216	219	218	211	223	225	215	215	215	215
149	208	203	215	198	209	212	201	208	209	208	201	214	216	205	206	205	208
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151	190	185	195	181	188	193	181	188	188	190	183	195	195	188	190	187	190
152	179	176	185	173	178	183	170	179	178	180	171	186	185	179	180	177	179
153	168	167	175	164	167	172	161	169	167	170	162	176	174	170	170	167	168
154	157	157	165	155	157	163	153	159	156	161	153	166	164	160	158	157	157
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157	129	126	136	124	130	130	123	128	127	129	126	135	134	129	129	128	129

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01

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158	119	116	126	115	119	118	113	117	116	119	115	123	124	119	119	117	119
159	109	107	113	106	109	109	103	107	106	108	105	113	114	110	110	106	109
160	99	99	104	98	99	98	92	98	96	100	96	104	104	101	100	97	99
161	89	91	94	89	89	89	84	89	87	90	87	94	94	92	92	88	89
162	82	82	85	81	80	80	75	80	79	82	78	85	85	83	83	80	82
163	72	74	75	73	71	72	67	71	71	74	70	77	76	75	76	71	72
164	65	66	66	64	63	62	59	62	62	64	63	68	68	66	66	64	65
165	57	57	58	56	54	54	51	53	54	55	54	59	60	58	57	56	57
166	49	50	49	49	46	47	43	46	46	48	46	51	52	51	50	48	49
167	42	42	42	41	40	39	37	39	39	41	40	45	44	43	42	41	42
168	36	36	35	35	34	33	31	33	34	34	34	38	37	37	36	35	36
169	30	30	29	29	28	27	25	27	28	29	28	31	31	32	31	29	30
170	26	25	24	24	22	22	20	22	23	23	23	25	25	26	26	24	26
171	20	20	20	19	18	17	16	18	18	19	19	20	20	21	20	20	20
172	16	16	15	15	14	13	13	13	14	15	15	16	16	17	17	16	16
173	13	13	12	12	10	10	10	11	11	11	12	13	13	13	13	13	13
174	10	9	9	9	8	8	8	8	9	9	10	10	10	10	10	10	10
175	8	8	7	8	6	6	6	6	7	8	8	8	7	8	8	7	8
176	6	6	5	6	5	5	6	5	6	6	6	6	5	6	5	6	6
177	5	4	5	6	4	4	4	4	4	5	4	5	4	4	5	3	5
178	4	4	4	4	3	3	4	3	4	4	4	4	2	3	4	4	4
179	3	4	4	3	3	3	3	3	4	3	4	4	3	3	3	4	3
180	4	4	4	3	3	3	4	4	4	4	4	4	3	4	4	4	4



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### 3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2021/2/26
AC Power Source	CHP-500C	N/A	2021/3/29
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2021/3/1
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Integral Sphere (2M)	2M	DYJCE120067	2021/2/26
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2021/2/26
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 \*\*\*\*\*