

0hr HOUR RESULTS

	Lp. #	Volts	Amps	Watts	pf (≥.7)	0hr Hr. Lumens	CCT	CRI (≥80)	R9 (>0)	Sph Temp	x Value	y Value	u' Value	v' Value	Duv	7-Step Color Compliance	LPW (>40)
Base Up	P-50356-1	120.0	0.114	11.9	0.869	991	3055	82.8	18.9	25.2	0.4315	0.3994	0.2490	0.5187	-0.0011	PASS	83.3
	P-50356-2	120.0	0.112	11.7	0.870	957	3058	83.1	20.8	25.3	0.4310	0.3987	0.2491	0.5184	-0.0013	PASS	82.2
	P-50356-3	120.0	0.113	11.7	0.866	966	3057	83.0	19.1	25.4	0.4319	0.4005	0.2489	0.5192	-0.0007	PASS	82.6
	P-50356-4	120.0	0.113	11.7	0.866	1003	3052	82.6	17.8	25.4	0.4328	0.4019	0.2489	0.5199	-0.0003	PASS	85.8
	P-50356-5	120.0	0.113	11.8	0.872	959	3032	82.9	19.8	25.4	0.4342	0.4022	0.2496	0.5202	-0.0004	PASS	81.1

	Lp. #	Volts	Amps	Watts	pf (≥.7)	0hr Hr. Lumens	CCT	CRI (≥80)	R9 (>0)	Sph Temp	x Value	y Value	u' Value	v' Value	Duv	7-Step Color Compliance	LPW (>40)
Base Down	P-50356-6	120.0	0.112	11.7	0.869	986	3032	82.1	16.5	25.5	0.4347	0.4034	0.2495	0.5208	0.0000	PASS	84.4
	P-50356-7	120.0	0.113	11.8	0.871	971	3035	82.6	17.8	25.4	0.4341	0.4025	0.2494	0.5203	-0.0002	PASS	82.4
	P-50356-8	120.0	0.114	11.9	0.872	984	3056	82.5	18.1	25.5	0.4317	0.4000	0.2490	0.5190	-0.0009	PASS	82.7
	P-50356-9	120.0	0.112	11.7	0.872	948	3047	82.6	18.3	25.5	0.4323	0.4001	0.2493	0.5191	-0.0009	PASS	81.2
	P-50356-10	120.0	0.113	11.8	0.871	992	3062	82.6	18.3	25.5	0.4312	0.3997	0.2488	0.5188	-0.0009	PASS	84.3
Grand AVG.	119.98	0.1127	11.75	0.870	976	3049	83	19	25.4	0.4325	0.4008	0.2492	0.5194	-0.0007		83.0	
Compliance					Complies	TBD	Complies	Complies	Complies						Complies	Complies	Complies

LUMEN & COLOR MAINTENANCE

LIFE TESTING

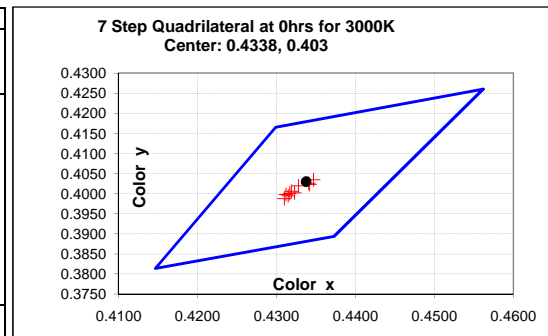
	Date:	N-N													N-N		
	Lp. #	1000 Hr. Lumens	1000 Hr. Lumen Maint.	1000 Hr. u' Color Maint.	1000 Hr. v' Color Maint.	3000 Hr. Lumens	3000 Hr. Lumen Maint.	3000 Hr. u' Color Maint.	3000 Hr. v' Color Maint.	6000 Hr. Lumens	6000 Hr. Lumen Maint.	6000 Hr. u' Color Maint.	6000 Hr. v' Color Maint.	N-N	N-N	Failure before 6000hours	Failure before Rated Life
Base Up	P-50356-1																
	P-50356-2																
	P-50356-3																
	P-50356-4																
	P-50356-5																
Base Down	P-50356-6																
	P-50356-7																
	P-50356-8																
	P-50356-9																
	P-50356-10																
Grand AVG.																	
Compliance		TBD	TBD	TBD		TBD	TBD	TBD		TBD	TBD	TBD		TBD			

Date:	
Lp. #	* Transient Protection PASS/FAIL
T-50356-1	
T-50356-2	
T-50356-3	
T-50356-4	
T-50356-5	
Compliance	TBD

Date:	
Lp. #	* Ballast Freq (≥120 Hz)
N-N	
Compliance	

Date:	
Lp. #	* Noise (dbA)
N-N	

Date:	
Lp. #	Rapid Cycles Endured
R-50356-1	
R-50356-2	
R-50356-3	
R-50356-4	
R-50356-5	
R-50356-6	
R-50356-7	
R-50356-8	
R-50356-9	
R-50356-10	
Compliance	TBD



Technician: Sun Zhengqi

Date: 2013-07-31

Reviewed by: Liao Bingjing

Date: 2013-08-12

* THIS REPORT CONTAINS DATA THAT IS NOT COVERED BY THE NVLAP ACCREDITATION

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TEST REPORT

PO Number:LED0356

Model Number:LED12BR30D30K

Light Intensity & Color Distribution Tests

Electrical Characteristics:

LP#	Volt	Ampere	pf	Watts
D-50356-01	120.0	0.1132	0.871	11.8

Zonal Lumen Flux:

γ angle (°)	Φ zonal(lm)	Φ Cumulative(lm)	% Cumulative Lumen
0-5	7	7.3	0.8%
5-10	22	28.9	3.0%
10-15	35	64.1	6.6%
15-20	48	111.6	11.5%
20-25	58	169.8	17.5%
25-30	67	236.5	24.3%
30-35	73	309.5	31.8%
35-40	77	386.3	39.7%
40-45	78	464.3	47.8%
45-50	77	541.0	55.6%
50-55	73	614.3	63.2%
55-60	68	682.2	70.2%
60-65	61	743.2	76.5%
65-70	53	796.2	81.9%
70-75	44	840.5	86.5%
75-80	36	876.2	90.1%
80-85	28	903.8	93.0%
85-90	20	924.2	95.1%
90-95	15	938.7	96.6%
95-100	10	948.7	97.6%
100-105	7	955.5	98.3%
105-110	5	960.4	98.8%
110-115	4	963.9	99.2%
115-120	3	966.6	99.4%
120-125	2	968.5	99.6%
125-130	1	969.9	99.8%
130-135	1	970.8	99.9%
135-140	1	971.4	99.9%
140-145	0	971.8	100.0%
145-150	0	972.0	100.0%
150-155	0	972.1	100.0%
155-160	0	972.2	100.0%
160-165	0	972.2	100.0%
165-170	0	972.2	100.0%
170-175	0	972.2	100.0%
175-180	0	972.2	100.0%

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TEST REPORT

PO Number:LED0356

Model Number:LED12BR30D30K

Light Intensity & Color Distribution Tests

Light Intensity Distribution Data Table (Type C)

LP#:D-50356-01

y Angle (°)	C Planes																																					
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306
5	303	303	303	303	303	303	303	303	304	304	304	304	304	305	305	305	305	306	306	306	306	306	306	306	305	305	305	305	305	304	304	304	304	304	303	303	303	303
10	298	298	297	297	297	298	298	299	299	299	299	300	300	301	301	302	302	303	303	303	303	303	303	302	302	302	302	301	301	300	300	299	299	298	298	298	298	298
15	289	289	289	289	289	290	290	291	291	292	292	293	294	294	295	296	296	297	297	297	297	297	296	296	296	296	295	294	294	293	292	292	292	291	290	290	290	290
20	279	279	278	278	278	279	279	280	281	282	282	284	284	285	286	287	287	287	288	288	288	288	288	288	288	287	287	286	285	284	284	282	282	281	280	279	279	279
25	265	265	265	265	265	266	266	267	268	269	270	271	272	273	274	275	275	276	276	276	276	277	277	276	276	275	275	274	273	272	271	270	269	268	267	266	266	266
30	250	250	249	249	249	250	251	252	253	254	255	257	257	259	259	260	260	261	262	262	262	262	262	262	261	261	259	259	257	257	255	254	253	252	251	250	250	251
35	233	232	232	232	232	233	233	235	235	237	238	240	240	242	242	244	244	245	245	245	246	245	246	245	244	244	243	242	241	240	238	237	236	235	233	233	233	
40	214	213	213	213	213	214	214	216	216	218	219	221	222	223	223	225	225	226	227	226	227	227	227	228	227	226	226	224	224	222	221	220	219	217	216	214	214	214
45	193	193	192	193	193	194	194	195	196	198	199	201	201	203	203	205	205	206	206	206	207	207	208	207	206	205	204	204	202	201	200	199	197	196	194	194	194	
50	172	172	171	172	172	173	173	174	175	177	178	179	180	182	182	183	183	185	185	185	186	186	186	185	184	184	183	182	181	180	179	178	176	175	173	173	173	
55	151	151	150	151	150	151	151	153	153	155	156	158	158	160	160	161	161	163	164	164	165	164	165	164	163	163	161	161	159	159	157	156	155	154	152	152	152	
60	130	130	129	130	129	130	130	132	132	134	134	136	136	138	138	139	140	141	142	142	143	142	143	142	141	141	139	139	138	137	136	135	133	133	131	131	131	
65	109	109	108	109	108	109	109	111	111	113	113	115	115	116	116	118	118	119	120	120	121	121	121	120	120	119	119	118	118	116	114	114	112	112	110	110	110	
70	89	90	89	89	89	90	91	91	92	93	94	94	96	96	97	97	98	99	99	100	100	100	100	99	98	98	97	97	95	95	94	93	92	92	90	90	90	
75	71	71	70	71	70	71	71	72	72	73	74	75	75	76	76	78	78	79	80	80	80	80	80	79	80	79	79	78	77	76	75	74	73	73	72	72	72	
80	54	55	54	54	54	55	55	55	56	57	57	58	58	59	59	60	60	61	62	62	63	62	63	62	61	61	60	60	59	59	58	58	56	56	55	55	55	
85	40	41	40	40	40	41	41	41	42	42	43	43	44	44	45	45	46	47	46	47	47	47	46	47	46	46	45	45	44	44	43	43	42	42	41	41		
90	29	29	29	29	29	29	30	30	30	30	31	31	32	32	33	33	33	34	34	34	34	34	34	33	33	33	33	32	31	31	30	30	29	29	29	29	29	
95	20	20	20	20	20	20	21	21	21	21	22	22	22	22	23	23	23	24	24	24	24	24	24	24	23	23	23	23	22	22	22	22	21	21	21	21	21	
100	14	14	14	14	14	14	14	14	14	15	15	15	15	15	16	16	16	16	16	16	17	16	16	16	16	16	16	15	15	15	15	15	15	14	14	14	14	
105	10	10	10	10	10	10	10	10	10	10	11	11	11	11	11	11	11	12	12	12	12	12	12	12	11	11	11	11	11	11	11	11	11	10	10	10	10	
110	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	
115	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6	6	6	6	6	
120	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
125	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
130	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
135	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
140	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
145	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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TEST REPORT

PO Number:LED0356

Model Number:LED12BR30D30K

Light Intensity & Color Distribution Tests

Weighted average u':	0.2502
Weighted average v':	0.5198
Rated Beam angle(°):	N/A
Actual Beam Angle Tested(°):	112.2

Spatial non-uniformity of chromaticity: **0.0008** (Within actual beam angle tested)

Color Distribution Data Table:

LP#:D-50001-01

γ angle (°)	C0 plane		C90 plane		γ (°)	C0 plane		C90 plane	
	u'	v'	u'	v'		u'	v'	u'	v'
0	0.2500	0.5190	0.2500	0.5191	0	0.2500	0.5190	0.2500	0.5191
-1	0.2500	0.5190	0.2500	0.5190	1	0.2500	0.5190	0.2500	0.5191
-2	0.2500	0.5190	0.2500	0.5190	2	0.2500	0.5190	0.2500	0.5191
-3	0.2500	0.5190	0.2500	0.5190	3	0.2500	0.5190	0.2500	0.5191
-4	0.2500	0.5190	0.2500	0.5191	4	0.2500	0.5191	0.2500	0.5191
-5	0.2500	0.5190	0.2500	0.5191	5	0.2500	0.5190	0.2500	0.5191
-6	0.2500	0.5190	0.2500	0.5191	6	0.2500	0.5191	0.2500	0.5191
-7	0.2500	0.5190	0.2500	0.5191	7	0.2500	0.5191	0.2500	0.5191
-8	0.2500	0.5191	0.2500	0.5191	8	0.2500	0.5191	0.2500	0.5191
-9	0.2500	0.5191	0.2500	0.5191	9	0.2500	0.5191	0.2500	0.5191
-10	0.2500	0.5191	0.2501	0.5191	10	0.2500	0.5191	0.2500	0.5192
-11	0.2500	0.5191	0.2500	0.5192	11	0.2500	0.5191	0.2500	0.5192
-12	0.2500	0.5191	0.2500	0.5192	12	0.2500	0.5192	0.2500	0.5192
-13	0.2500	0.5191	0.2501	0.5192	13	0.2501	0.5192	0.2500	0.5192
-14	0.2501	0.5192	0.2501	0.5192	14	0.2501	0.5192	0.2501	0.5192
-15	0.2500	0.5192	0.2500	0.5192	15	0.2501	0.5193	0.2501	0.5193
-16	0.2501	0.5192	0.2501	0.5193	16	0.2501	0.5193	0.2501	0.5193
-17	0.2501	0.5192	0.2501	0.5193	17	0.2501	0.5193	0.2501	0.5193
-18	0.2501	0.5193	0.2501	0.5193	18	0.2501	0.5194	0.2501	0.5193
-19	0.2501	0.5193	0.2501	0.5193	19	0.2501	0.5194	0.2501	0.5194
-20	0.2501	0.5193	0.2501	0.5194	20	0.2502	0.5194	0.2501	0.5194
-21	0.2501	0.5193	0.2502	0.5194	21	0.2502	0.5195	0.2501	0.5194
-22	0.2501	0.5194	0.2501	0.5194	22	0.2502	0.5195	0.2501	0.5195
-23	0.2502	0.5194	0.2502	0.5195	23	0.2502	0.5195	0.2502	0.5195
-24	0.2502	0.5194	0.2502	0.5195	24	0.2502	0.5195	0.2502	0.5195
-25	0.2502	0.5195	0.2502	0.5196	25	0.2502	0.5196	0.2502	0.5196
-26	0.2502	0.5195	0.2502	0.5196	26	0.2502	0.5196	0.2502	0.5196
-27	0.2502	0.5195	0.2503	0.5196	27	0.2502	0.5197	0.2502	0.5196
-28	0.2502	0.5195	0.2503	0.5197	28	0.2503	0.5197	0.2502	0.5196
-29	0.2502	0.5196	0.2503	0.5197	29	0.2503	0.5197	0.2503	0.5197
-30	0.2502	0.5196	0.2503	0.5197	30	0.2503	0.5198	0.2502	0.5197
-31	0.2503	0.5197	0.2503	0.5198	31	0.2503	0.5198	0.2503	0.5197
-32	0.2503	0.5197	0.2503	0.5198	32	0.2503	0.5199	0.2503	0.5198
-33	0.2503	0.5197	0.2503	0.5198	33	0.2504	0.5199	0.2503	0.5198
-34	0.2503	0.5197	0.2504	0.5199	34	0.2504	0.5199	0.2503	0.5198
-35	0.2503	0.5198	0.2503	0.5199	35	0.2504	0.5199	0.2503	0.5199
-36	0.2503	0.5198	0.2504	0.5199	36	0.2504	0.5200	0.2503	0.5199
-37	0.2503	0.5198	0.2504	0.5200	37	0.2504	0.5200	0.2503	0.5199
-38	0.2503	0.5199	0.2504	0.5200	38	0.2504	0.5200	0.2503	0.5200
-39	0.2503	0.5199	0.2504	0.5200	39	0.2504	0.5201	0.2503	0.5200
-40	0.2503	0.5199	0.2504	0.5201	40	0.2504	0.5201	0.2503	0.5200
-41	0.2503	0.5199	0.2504	0.5201	41	0.2504	0.5201	0.2503	0.5201
-42	0.2503	0.5199	0.2504	0.5201	42	0.2505	0.5202	0.2503	0.5201
-43	0.2503	0.5200	0.2504	0.5201	43	0.2505	0.5202	0.2503	0.5201
-44	0.2503	0.5200	0.2504	0.5202	44	0.2505	0.5202	0.2503	0.5201
-45	0.2503	0.5200	0.2504	0.5202	45	0.2504	0.5202	0.2503	0.5201
-46	0.2503	0.5201	0.2504	0.5202	46	0.2505	0.5203	0.2503	0.5202
-47	0.2503	0.5201	0.2504	0.5202	47	0.2505	0.5203	0.2503	0.5202
-48	0.2503	0.5201	0.2504	0.5202	48	0.2505	0.5203	0.2503	0.5202
-49	0.2503	0.5201	0.2504	0.5203	49	0.2504	0.5203	0.2503	0.5202
-50	0.2503	0.5202	0.2504	0.5203	50	0.2504	0.5203	0.2503	0.5202
-51	0.2503	0.5201	0.2503	0.5203	51	0.2504	0.5204	0.2502	0.5203
-52	0.2503	0.5202	0.2504	0.5203	52	0.2504	0.5204	0.2498	0.5201
-53	0.2502	0.5202	0.2503	0.5203	53	0.2504	0.5204	0.2498	0.5201
-54	0.2502	0.5201	0.2503	0.5203	54	0.2504	0.5204	0.2498	0.5201
-55	0.2502	0.5202	0.2503	0.5203	55	0.2504	0.5204	0.2498	0.5202
-56	0.2502	0.5202	0.2503	0.5204	56	0.2504	0.5204	0.2498	0.5202
-57	0.2502	0.5202	0.2502	0.5203	57	0.2503	0.5204	0.2498	0.5202
-58	0.2502	0.5202	0.2503	0.5203	58	0.2503	0.5204	0.2498	0.5202
-59	0.2501	0.5201	0.2502	0.5203	59	0.2503	0.5204	0.2498	0.5202
-60	0.2501	0.5202	0.2502	0.5203	60	0.2503	0.5204	0.2498	0.5202

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TEST REPORT

PO Number:LED0356

Model Number:LED12BR30D30K

Light Intensity & Color Distribution Tests

Directional Lamps

Test Results:

Average Beam Angle(50%):

Directional Lamps - Definition:

The luminous flux within a solid angle of π sr- Φ_1 (lumens):

The total luminous flux- Φ (lumens):

Φ_1/Φ (%):

Energy Star Integral LED lamps Specification V1.4:**Directional lamp means a lamp having at least 80% light output within a solid angle of π sr (corresponding to a cone with angle of 120°)**

Complies / Does not comply:

Minimum Center Beam Intensity - PAR/MR16 Lamps:

Minimum Center Beam Intensity (cd):

Center Beam Intensity tested (cd):

Complies / Does not comply:

Color Spatial Uniformity:

Spatial non-uniformity of chromaticity:

Energy Star Integral LED lamps Specification V1.4:**The variation of chromaticity within the beam angle shall be within 0.006 from the weighted average point on the CIE 1976 (u',v') diagram**

Complies/ Does not Comply:

Light Distribution Polar Diagram:

