UL Verification Services
7036 Snowdrift Road Suite 200
Allentown, PA 18106
610-774-1300

Integrating Sphere Test Report

Relevant Standards
IES LM-79-2008
ANSI C78.377-2008, ANSI C82.77
CIE 13.3-1995, CIE 15-2004

Prepared For
LED Waves, LLC
Tsung-Hsun Hsieh
6TH FL 33 35TH Street
Brooklyn, NY 11232

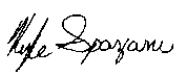
Catalog Number
Gensys 3.0 4000K 84%

Project Number
6012-002376
Test Number
33544

Test Date

2012-09-20

Prepared By



Kyle Spaziani, Project Coordinator

Approved By

Eric Gaudreau, Project Coordinator

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Luminaire Description:	Extruded aluminum heatsink housing, frosted plastic enclosure
Catalog Number:	Gensys 3.0 4000K 84%
Lamp:	96 white LEDs
Mounting:	Horizontal
Ballast/Driver:	One LiFud LF-G407E

Luminaire

Summary of Results

Radiant Flux:	8335	mW
Luminous Flux:	2526	Lumens
Luminaire Efficacy:	65.4	Lumens/Watt
CCT:	4022	K
CRI (Ra):	85.8	
Chromaticity (x):	0.3792	
Chromaticity (y):	0.3753	
Chromaticity (u):	0.2248	
Chromaticity (v):	0.3338	
Duv:	-0.0010	

Test Conditions

Test Temperature:	25.1	°C
Voltage:	120.0	VAC
Current:	0.3246	A
Power:	38.60	W
Power Factor:	0.991	
Frequency:	60	Hz
Current THD:	11.0	%

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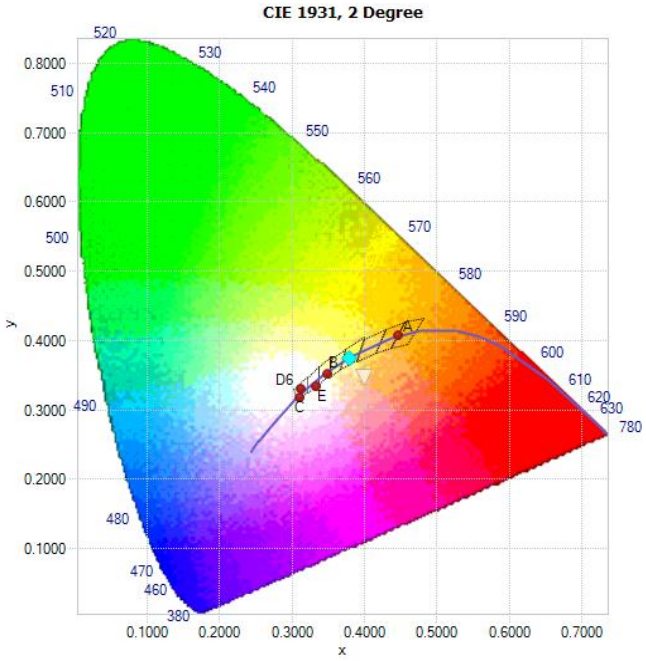
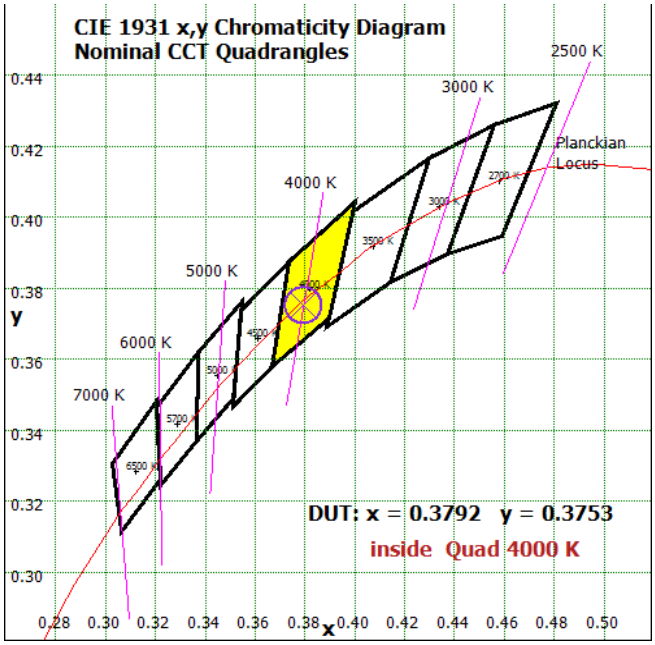
Chromaticity Coordinates

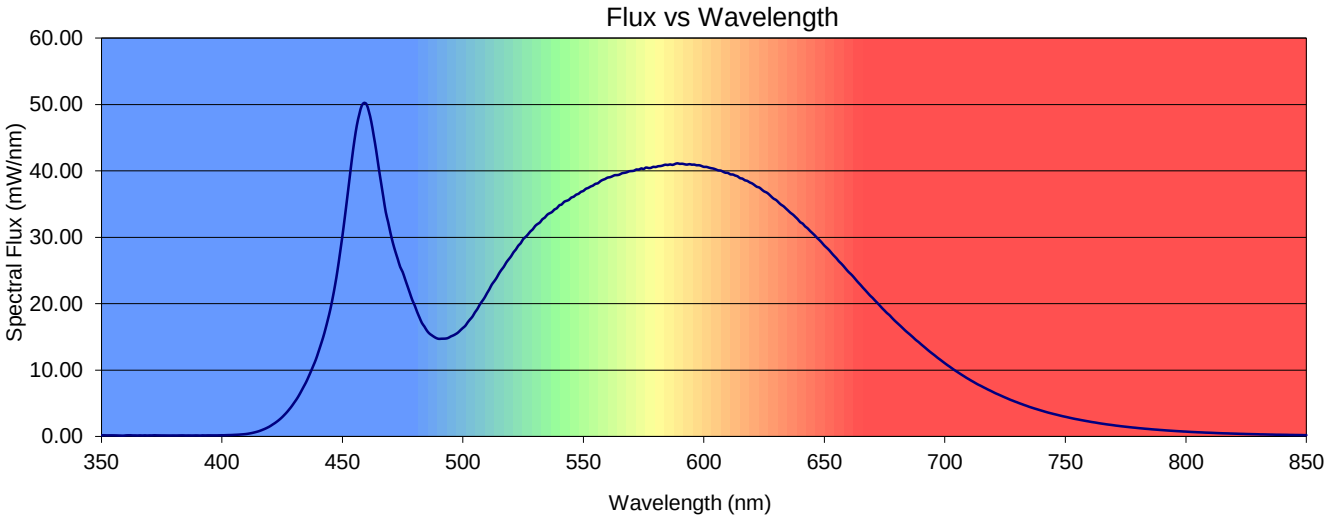
x	y	u	v	u'	v'	Duv
0.3792	0.3753	0.2248	0.3338	0.2248	0.5007	-0.0010

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
85.8	85.1	92.6	94.9	80.8	82.9	86.7	89.0	74.4	37.5	78.9	76.9	59.1	87.3	97.0







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LTL

Spectral Power Distribution

λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm	λ(nm)	mW/nm
350	0.171	422	2.03	494	14.9	566	39.6	638	33.1	710	8.62	782	1.21
351	0.193	423	2.29	495	15.1	567	39.7	639	32.7	711	8.40	783	1.18
352	0.172	424	2.59	496	15.2	568	39.8	640	32.3	712	8.20	784	1.15
353	0.173	425	2.91	497	15.4	569	39.9	641	32.1	713	7.98	785	1.12
354	0.175	426	3.29	498	15.7	570	40.0	642	31.6	714	7.79	786	1.08
355	0.173	427	3.67	499	16.0	571	40.0	643	31.4	715	7.61	787	1.05
356	0.166	428	4.11	500	16.3	572	40.2	644	31.0	716	7.42	788	1.03
357	0.154	429	4.58	501	16.7	573	40.2	645	30.6	717	7.24	789	0.998
358	0.141	430	5.09	502	17.2	574	40.4	646	30.3	718	7.05	790	0.971
359	0.130	431	5.62	503	17.6	575	40.3	647	29.9	719	6.88	791	0.943
360	0.166	432	6.21	504	18.1	576	40.5	648	29.6	720	6.70	792	0.916
361	0.183	433	6.87	505	18.7	577	40.4	649	29.2	721	6.52	793	0.892
362	0.188	434	7.55	506	19.2	578	40.4	650	28.7	722	6.36	794	0.867
363	0.165	435	8.23	507	19.9	579	40.6	651	28.4	723	6.20	795	0.844
364	0.166	436	9.02	508	20.4	580	40.6	652	28.1	724	6.04	796	0.819
365	0.152	437	9.86	509	20.9	581	40.7	653	27.6	725	5.88	797	0.799
366	0.174	438	10.7	510	21.6	582	40.7	654	27.2	726	5.72	798	0.779
367	0.153	439	11.6	511	22.2	583	40.8	655	26.8	727	5.56	799	0.757
368	0.171	440	12.7	512	22.9	584	40.9	656	26.4	728	5.42	800	0.737
369	0.154	441	13.8	513	23.4	585	40.9	657	26.0	729	5.28	801	0.716
370	0.168	442	14.9	514	23.9	586	41.0	658	25.6	730	5.14	802	0.692
371	0.166	443	16.2	515	24.6	587	40.9	659	25.2	731	5.00	803	0.674
372	0.185	444	17.6	516	25.1	588	41.0	660	24.8	732	4.87	804	0.657
373	0.174	445	19.1	517	25.6	589	41.1	661	24.5	733	4.74	805	0.639
374	0.168	446	20.9	518	26.2	590	41.1	662	24.1	734	4.61	806	0.624
375	0.162	447	22.9	519	26.7	591	41.1	663	23.6	735	4.47	807	0.611
376	0.159	448	25.1	520	27.1	592	41.0	664	23.2	736	4.36	808	0.591
377	0.157	449	27.6	521	27.7	593	40.9	665	22.8	737	4.24	809	0.578
378	0.153	450	30.2	522	28.2	594	41.0	666	22.4	738	4.13	810	0.565
379	0.154	451	33.0	523	28.7	595	40.9	667	22.0	739	4.02	811	0.551
380	0.158	452	35.9	524	29.1	596	40.9	668	21.6	740	3.91	812	0.535
381	0.153	453	38.9	525	29.7	597	40.8	669	21.2	741	3.80	813	0.518
382	0.161	454	41.9	526	30.0	598	40.8	670	20.9	742	3.69	814	0.503
383	0.168	455	44.6	527	30.4	599	40.7	671	20.5	743	3.59	815	0.489
384	0.169	456	46.9	528	30.9	600	40.6	672	20.1	744	3.50	816	0.477
385	0.151	457	48.5	529	31.2	601	40.6	673	19.7	745	3.41	817	0.472
386	0.160	458	49.8	530	31.7	602	40.5	674	19.3	746	3.32	818	0.456
387	0.155	459	50.2	531	32.0	603	40.4	675	19.0	747	3.23	819	0.444
388	0.151	460	50.0	532	32.2	604	40.3	676	18.6	748	3.14	820	0.434
389	0.163	461	48.9	533	32.7	605	40.2	677	18.3	749	3.05	821	0.424
390	0.161	462	47.4	534	33.0	606	40.1	678	17.9	750	2.97	822	0.411
391	0.146	463	45.3	535	33.4	607	40.0	679	17.5	751	2.89	823	0.400
392	0.172	464	43.1	536	33.6	608	39.9	680	17.2	752	2.81	824	0.391
393	0.161	465	40.6	537	33.8	609	39.7	681	16.8	753	2.73	825	0.379
394	0.172	466	38.3	538	34.2	610	39.7	682	16.5	754	2.65	826	0.371
395	0.173	467	36.0	539	34.4	611	39.5	683	16.2	755	2.59	827	0.362
396	0.170	468	33.8	540	34.8	612	39.5	684	15.8	756	2.51	828	0.354
397	0.168	469	32.3	541	34.9	613	39.3	685	15.5	757	2.45	829	0.345
398	0.170	470	30.6	542	35.3	614	39.2	686	15.2	758	2.38	830	0.336
399	0.179	471	29.1	543	35.5	615	38.9	687	14.9	759	2.31	831	0.323
400	0.187	472	27.8	544	35.6	616	38.8	688	14.5	760	2.25	832	0.319
401	0.189	473	26.7	545	36.0	617	38.6	689	14.3	761	2.18	833	0.312
402	0.203	474	25.5	546	36.1	618	38.5	690	13.9	762	2.13	834	0.303
403	0.215	475	24.8	547	36.4	619	38.3	691	13.6	763	2.07	835	0.294
404	0.224	476	23.7	548	36.5	620	38.1	692	13.3	764	2.00	836	0.287
405	0.243	477	22.7	549	36.8	621	37.9	693	13.0	765	1.95	837	0.275
406	0.263	478	21.6	550	37.0	622	37.6	694	12.7	766	1.90	838	0.270
407	0.282	479	20.6	551	37.3	623	37.5	695	12.4	767	1.84	839	0.270
408	0.309	480	19.7	552	37.4	624	37.2	696	12.1	768	1.79	840	0.262
409	0.339	481	18.8	553	37.6	625	36.9	697	11.9	769	1.74	841	0.257
410	0.375	482	17.9	554	37.8	626	36.7	698	11.6	770	1.70	842	0.251
411	0.431	483	17.1	555	38.0	627	36.5	699	11.3	771	1.64	843	0.241
412	0.495	484	16.6	556	38.1	628	36.1	700	11.0	772	1.60	844	0.237
413	0.575	485	16.0	557	38.4	629	35.8	701	10.8	773	1.55	845	0.229
414	0.662	486	15.5	558	38.6	630	35.6	702	10.5	774	1.51	846	0.223
415	0.762	487	15.3	559	38.8	631	35.2	703	10.3	775	1.47	847	0.222
416	0.886	488	15.0	560	39.0	632	34.9	704	10.00	776	1.43	848	0.215
417	1.03	489	14.8	561	39.0	633	34.7	705	9.76	777	1.39	849	0.206
418	1.18	490	14.7	562	39.2	634	34.3	706	9.53	778	1.35	850	0.208
419	1.36	491	14.7	563	39.3	635	34.0	707	9.29	779	1.32		
420	1.55	492	14.7	564	39.4	636	33.7	708	9.07	780	1.28		
421	1.79	493	14.8	565	39.4	637	33.4	709	8.83	781	1.25		