



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
Kori Lozinski
6TH FL 33 35TH Street
Brooklyn, NY 11232

Catalog Number
Dallas 2.0 PAR-20 LED Light Bulb (5000K)

Project Number
6012-001767
Test Number
32122

Test Date

2012-07-24

Prepared By

A handwritten signature in black ink, appearing to read 'Eric M. Gaudreau'.

Eric Gaudreau, Technician

Approved By

A handwritten signature in black ink, appearing to read 'Zachary Mooney'.

Zachary Mooney, Project Coordinator

The results contained in this report pertain only to the tested sample.
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.



Lamp Description: Extruded aluminum heatsink housing, frosted plastic enclosure
Catalog Number: Dallas 2.0 PAR-20 LED Light Bulb (5000K)
Lamp: Seven white LEDs with prismatic plastic optics below each
Mounting: VBU
Ballast/Driver: Internal

Lamp



Summary of Results

Radiant Flux: 2064 mW
Luminous Flux: 657.9 Lumens
Lamp Efficacy: 75.2 Lumens/Watt
CCT: 5072 K
CRI (Ra): 78.0
Chromaticity (x): 0.3431
Chromaticity (y): 0.3505
Chromaticity (u): 0.2105
Chromaticity (v): 0.3225
Duv: 0.0004

Test Conditions

Test Temperature: 24.8 °C
Voltage: 120.0 VAC
Current: 0.07667 A
Power: 8.743 W
Power Factor: 0.950
Frequency: 60 Hz
Current THD: 28.9 %

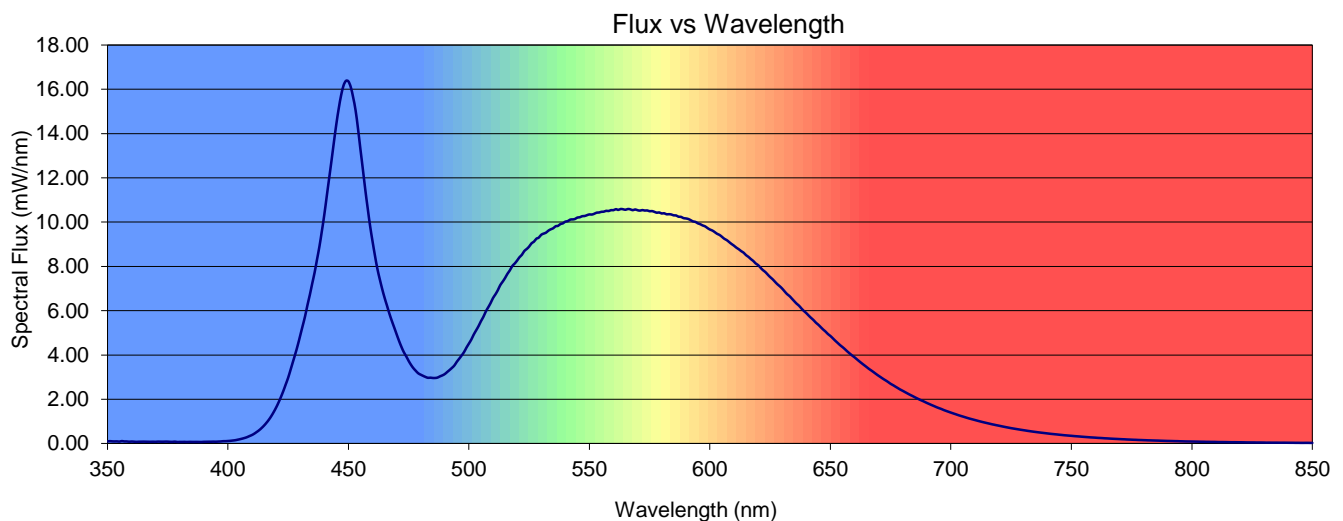
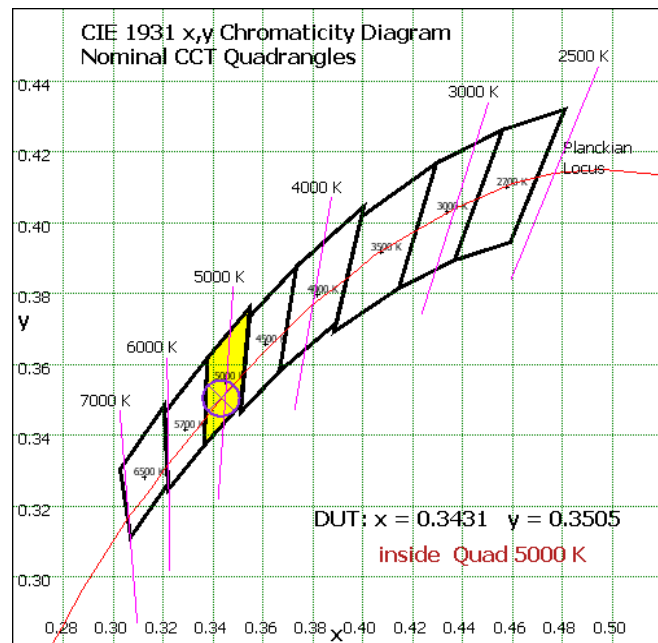
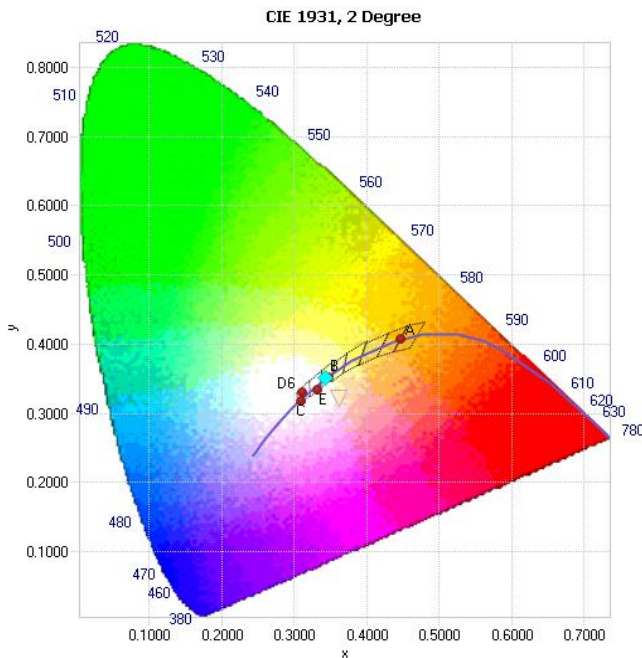


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.3431	0.3505	0.2105	0.3225	0.2105	0.4838	0.0004

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
78.0	77.0	81.9	83.9	78.9	77.3	74.4	84.2	66.2	0.5	55.4	76.6	53.6	77.5	90.7





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	0.0940	422	2.10	494	3.53	566	10.6	638	6.10	710	1.06	782	0.143
351	0.107	423	2.37	495	3.69	567	10.6	639	5.99	711	1.03	783	0.141
352	0.0980	424	2.67	496	3.83	568	10.5	640	5.89	712	1.00	784	0.137
353	0.0941	425	2.97	497	3.98	569	10.6	641	5.78	713	0.975	785	0.134
354	0.0961	426	3.33	498	4.13	570	10.5	642	5.67	714	0.948	786	0.131
355	0.0865	427	3.69	499	4.33	571	10.5	643	5.58	715	0.923	787	0.127
356	0.110	428	4.06	500	4.51	572	10.5	644	5.46	716	0.897	788	0.123
357	0.0940	429	4.45	501	4.70	573	10.5	645	5.37	717	0.871	789	0.119
358	0.0942	430	4.87	502	4.92	574	10.5	646	5.26	718	0.849	790	0.116
359	0.0814	431	5.31	503	5.11	575	10.5	647	5.15	719	0.825	791	0.113
360	0.0889	432	5.74	504	5.30	576	10.5	648	5.06	720	0.804	792	0.111
361	0.0831	433	6.24	505	5.52	577	10.5	649	4.94	721	0.780	793	0.107
362	0.0752	434	6.72	506	5.72	578	10.4	650	4.86	722	0.758	794	0.106
363	0.0804	435	7.23	507	5.96	579	10.4	651	4.76	723	0.736	795	0.101
364	0.0815	436	7.73	508	6.15	580	10.4	652	4.65	724	0.715	796	0.0991
365	0.0837	437	8.32	509	6.34	581	10.4	653	4.55	725	0.694	797	0.0946
366	0.0814	438	8.91	510	6.57	582	10.4	654	4.45	726	0.676	798	0.0923
367	0.0791	439	9.60	511	6.73	583	10.4	655	4.36	727	0.657	799	0.0919
368	0.0779	440	10.3	512	6.92	584	10.3	656	4.27	728	0.640	800	0.0892
369	0.0805	441	11.1	513	7.15	585	10.3	657	4.16	729	0.621	801	0.0878
370	0.0768	442	12.0	514	7.31	586	10.3	658	4.07	730	0.605	802	0.0852
371	0.0861	443	12.8	515	7.47	587	10.2	659	3.98	731	0.588	803	0.0831
372	0.0825	444	13.6	516	7.67	588	10.2	660	3.90	732	0.570	804	0.0809
373	0.0820	445	14.4	517	7.82	589	10.2	661	3.80	733	0.555	805	0.0789
374	0.0850	446	15.1	518	8.02	590	10.2	662	3.71	734	0.539	806	0.0762
375	0.0848	447	15.7	519	8.13	591	10.1	663	3.63	735	0.524	807	0.0756
376	0.0769	448	16.2	520	8.26	592	10.1	664	3.54	736	0.510	808	0.0727
377	0.0752	449	16.4	521	8.41	593	10.0	665	3.46	737	0.496	809	0.0721
378	0.0848	450	16.4	522	8.53	594	10.0	666	3.37	738	0.483	810	0.0698
379	0.0690	451	16.1	523	8.70	595	9.95	667	3.30	739	0.470	811	0.0666
380	0.0718	452	15.6	524	8.79	596	9.91	668	3.22	740	0.457	812	0.0651
381	0.0710	453	15.0	525	8.90	597	9.85	669	3.14	741	0.443	813	0.0645
382	0.0741	454	14.2	526	9.04	598	9.81	670	3.06	742	0.431	814	0.0633
383	0.0683	455	13.3	527	9.12	599	9.73	671	2.99	743	0.420	815	0.0620
384	0.0740	456	12.4	528	9.25	600	9.67	672	2.91	744	0.409	816	0.0585
385	0.0726	457	11.5	529	9.30	601	9.62	673	2.85	745	0.397	817	0.0581
386	0.0715	458	10.6	530	9.43	602	9.55	674	2.78	746	0.386	818	0.0582
387	0.0726	459	9.83	531	9.48	603	9.47	675	2.70	747	0.375	819	0.0561
388	0.0700	460	9.15	532	9.53	604	9.42	676	2.64	748	0.366	820	0.0558
389	0.0692	461	8.50	533	9.62	605	9.34	677	2.57	749	0.356	821	0.0543
390	0.0769	462	7.91	534	9.68	606	9.25	678	2.50	750	0.348	822	0.0519
391	0.0777	463	7.44	535	9.72	607	9.19	679	2.44	751	0.337	823	0.0497
392	0.0808	464	6.99	536	9.81	608	9.10	680	2.38	752	0.329	824	0.0489
393	0.0812	465	6.59	537	9.83	609	9.01	681	2.32	753	0.320	825	0.0480
394	0.0842	466	6.23	538	9.92	610	8.94	682	2.26	754	0.311	826	0.0480
395	0.0817	467	5.87	539	9.94	611	8.85	683	2.20	755	0.302	827	0.0446
396	0.0876	468	5.55	540	10.0	612	8.78	684	2.15	756	0.294	828	0.0453
397	0.0929	469	5.24	541	10.0	613	8.69	685	2.09	757	0.285	829	0.0444
398	0.104	470	4.94	542	10.1	614	8.62	686	2.04	758	0.277	830	0.0429
399	0.106	471	4.64	543	10.1	615	8.51	687	1.98	759	0.271	831	0.0389
400	0.113	472	4.37	544	10.1	616	8.43	688	1.94	760	0.264	832	0.0408
401	0.122	473	4.13	545	10.2	617	8.33	689	1.89	761	0.255	833	0.0384
402	0.135	474	3.94	546	10.2	618	8.25	690	1.83	762	0.250	834	0.0388
403	0.148	475	3.73	547	10.3	619	8.14	691	1.79	763	0.243	835	0.0387
404	0.171	476	3.55	548	10.3	620	8.06	692	1.74	764	0.235	836	0.0377
405	0.195	477	3.40	549	10.3	621	7.95	693	1.69	765	0.230	837	0.0362
406	0.222	478	3.28	550	10.3	622	7.83	694	1.64	766	0.223	838	0.0371
407	0.253	479	3.17	551	10.3	623	7.75	695	1.60	767	0.217	839	0.0367
408	0.290	480	3.11	552	10.4	624	7.63	696	1.56	768	0.211	840	0.0348
409	0.339	481	3.06	553	10.4	625	7.52	697	1.52	769	0.206	841	0.0339
410	0.386	482	3.01	554	10.4	626	7.42	698	1.47	770	0.200	842	0.0337
411	0.449	483	2.97	555	10.5	627	7.31	699	1.44	771	0.194	843	0.0312
412	0.524	484	2.97	556	10.5	628	7.20	700	1.40	772	0.190	844	0.0315
413	0.604	485	2.96	557	10.5	629	7.10	701	1.36	773	0.183	845	0.0293
414	0.701	486	2.96	558	10.5	630	7.00	702	1.32	774	0.178	846	0.0287
415	0.810	487	2.98	559	10.5	631	6.87	703	1.29	775	0.174	847	0.0296
416	0.936	488	3.03	560	10.5	632	6.75	704	1.25	776	0.169	848	0.0302
417	1.07	489	3.08	561	10.6	633	6.67	705	1.22	777	0.165	849	0.0278
418	1.24	490	3.14	562	10.6	634	6.55	706	1.18	778	0.159	850	0.0270
419	1.42	491	3.23	563	10.6	635	6.43	707	1.15	779	0.156		
420	1.62	492	3.32	564	10.6	636	6.32	708	1.12	780	0.152		
421	1.85	493	3.42	565	10.6	637	6.22	709	1.09	781	0.148		