



UL Verification Services Inc.  
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## Integrating Sphere Test Report

Relevant Standards  
IES LM-79-2008  
ANSI C78.377-2011, ANSI C82.77-2002  
CIE 13.3-1995, CIE 15-2004

Prepared For  
**Optolum**  
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United States

Catalog Number  
**15 B2-LP-L-358UOD-A072000**

Order Number  
**10520546**  
Test Number  
**785429**

Test Date  
**2014-10-15**

Prepared By

A handwritten signature in black ink that reads "Dane Hernandez-Adams".

Dane Hernandez-Adams, Technician

Approved By

A handwritten signature in black ink that reads "Zachary Mooney".

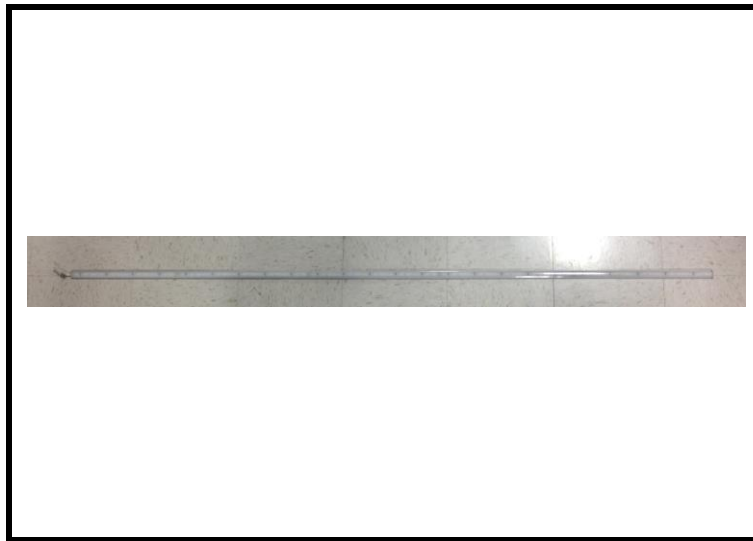
Zachary Mooney, Engineer Project Associate

The results contained in this report pertain only to the tested sample.  
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Luminaire Description: Grey aluminum housing, frosted plastic enclosure  
Catalog Number: 15 B2-LP-L-358UOD-A072000  
Lamp: 72 white LEDs  
Mounting: Surface  
Ballast/Driver: One High Perfection Tech. LP1090-24-GG-290

Luminaire



Summary of Results

Radiant Flux: 8760 mW  
Luminous Flux: 2733 Lumens  
Luminaire Efficacy: 60.9 Lumens/Watt  
CCT: 3330 K  
CRI (Ra): 83.2  
Chromaticity (x): 0.4132  
Chromaticity (y): 0.3907  
Chromaticity (u): 0.2408  
Chromaticity (v): 0.3416  
Duv: -0.0016

Test Conditions

Test Temperature: 24.9 °C  
Voltage: 120.0 VAC  
Current: 0.3811 A  
Power: 44.91 W  
Power Factor: 0.982  
Frequency: 60 Hz  
Current THD: 9.21 %

Testing was performed in a 3-meter integrating sphere using the 4π geometry method.

Absorption correction was employed for this measurement.

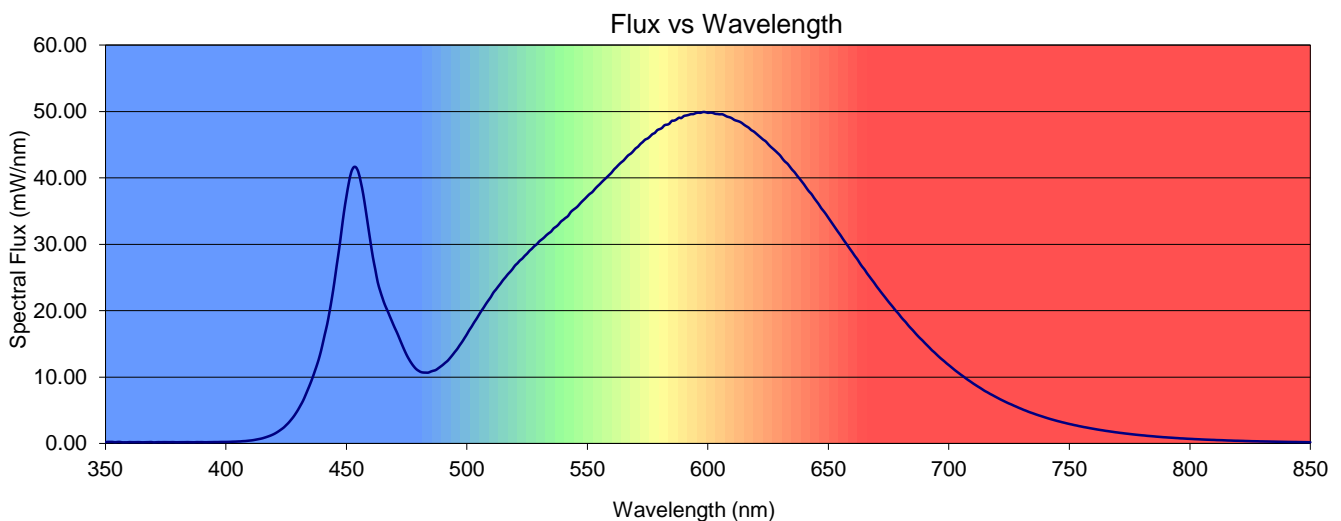
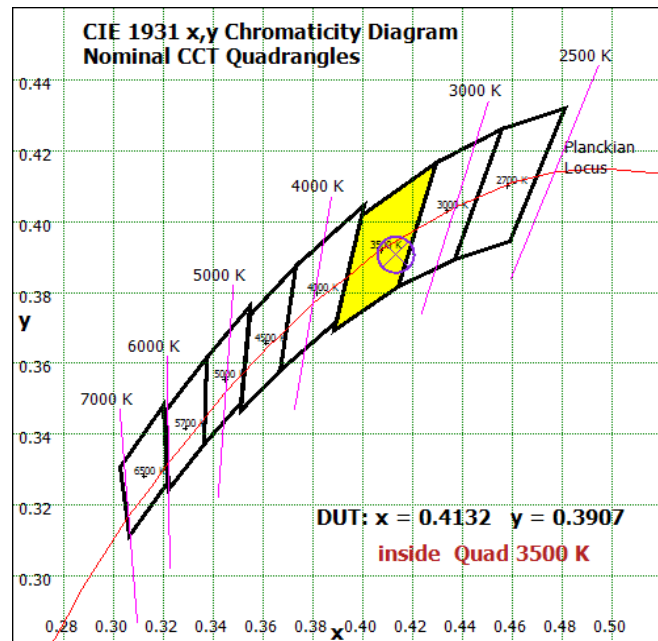
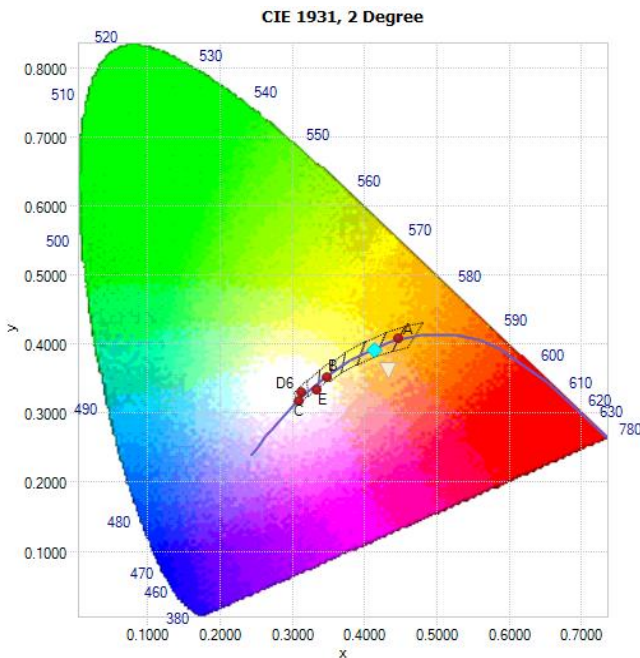


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.4132	0.3907	0.2408	0.3416	0.2408	0.5124	-0.0016

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83.2	81.7	89.7	94.7	80.3	80.8	84.8	86.3	66.9	21.7	74.7	77.4	62.4	83.4	97.0





Spectral Power Distribution

$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm	$\lambda$ (nm)	mW/nm
350	0.205	422	1.88	494	13.3	566	43.0	638	39.9	710	9.06	782	1.17		
351	0.242	423	2.14	495	13.8	567	43.4	639	39.4	711	8.82	783	1.13		
352	0.242	424	2.41	496	14.2	568	43.6	640	39.0	712	8.59	784	1.11		
353	0.238	425	2.76	497	14.8	569	44.0	641	38.4	713	8.37	785	1.08		
354	0.191	426	3.12	498	15.3	570	44.4	642	37.9	714	8.13	786	1.04		
355	0.228	427	3.55	499	15.9	571	44.7	643	37.6	715	7.90	787	1.01		
356	0.235	428	4.00	500	16.4	572	45.1	644	37.0	716	7.71	788	0.985		
357	0.181	429	4.54	501	17.1	573	45.4	645	36.5	717	7.49	789	0.952		
358	0.182	430	5.11	502	17.6	574	45.8	646	36.0	718	7.31	790	0.933		
359	0.181	431	5.76	503	18.2	575	45.9	647	35.5	719	7.11	791	0.905		
360	0.213	432	6.43	504	18.8	576	46.2	648	35.0	720	6.91	792	0.884		
361	0.203	433	7.25	505	19.4	577	46.6	649	34.5	721	6.72	793	0.859		
362	0.197	434	8.12	506	20.0	578	46.8	650	34.0	722	6.54	794	0.831		
363	0.206	435	8.99	507	20.5	579	47.2	651	33.5	723	6.36	795	0.812		
364	0.207	436	9.94	508	21.1	580	47.3	652	32.9	724	6.18	796	0.779		
365	0.183	437	11.0	509	21.6	581	47.5	653	32.4	725	6.01	797	0.766		
366	0.184	438	12.1	510	22.1	582	47.9	654	31.9	726	5.87	798	0.743		
367	0.197	439	13.3	511	22.7	583	48.0	655	31.4	727	5.70	799	0.719		
368	0.205	440	14.8	512	23.2	584	48.1	656	30.8	728	5.54	800	0.703		
369	0.221	441	16.4	513	23.6	585	48.6	657	30.3	729	5.38	801	0.685		
370	0.173	442	17.9	514	24.1	586	48.6	658	29.8	730	5.23	802	0.664		
371	0.187	443	19.8	515	24.6	587	48.8	659	29.3	731	5.07	803	0.647		
372	0.207	444	21.9	516	25.0	588	49.1	660	28.8	732	4.94	804	0.631		
373	0.197	445	24.3	517	25.5	589	49.0	661	28.2	733	4.79	805	0.611		
374	0.206	446	26.9	518	25.9	590	49.3	662	27.8	734	4.65	806	0.596		
375	0.204	447	29.3	519	26.3	591	49.4	663	27.2	735	4.53	807	0.577		
376	0.202	448	32.1	520	26.8	592	49.5	664	26.6	736	4.40	808	0.566		
377	0.200	449	34.8	521	27.1	593	49.6	665	26.2	737	4.27	809	0.552		
378	0.210	450	37.2	522	27.6	594	49.6	666	25.6	738	4.16	810	0.542		
379	0.190	451	39.2	523	27.8	595	49.8	667	25.2	739	4.04	811	0.519		
380	0.190	452	40.8	524	28.3	596	49.8	668	24.7	740	3.92	812	0.510		
381	0.196	453	41.6	525	28.6	597	49.8	669	24.2	741	3.81	813	0.500		
382	0.202	454	41.6	526	29.0	598	49.9	670	23.7	742	3.70	814	0.487		
383	0.200	455	40.8	527	29.3	599	49.9	671	23.2	743	3.60	815	0.469		
384	0.212	456	39.3	528	29.7	600	49.8	672	22.7	744	3.49	816	0.453		
385	0.201	457	37.5	529	30.0	601	49.8	673	22.3	745	3.39	817	0.447		
386	0.191	458	35.2	530	30.4	602	49.8	674	21.8	746	3.30	818	0.429		
387	0.190	459	32.8	531	30.7	603	49.7	675	21.3	747	3.21	819	0.419		
388	0.212	460	30.4	532	31.0	604	49.6	676	20.9	748	3.12	820	0.412		
389	0.206	461	28.0	533	31.4	605	49.6	677	20.5	749	3.03	821	0.401		
390	0.214	462	26.2	534	31.7	606	49.6	678	20.0	750	2.94	822	0.393		
391	0.194	463	24.3	535	31.9	607	49.4	679	19.6	751	2.87	823	0.377		
392	0.194	464	23.0	536	32.4	608	49.2	680	19.1	752	2.78	824	0.369		
393	0.205	465	21.9	537	32.6	609	49.1	681	18.7	753	2.71	825	0.359		
394	0.208	466	20.9	538	33.0	610	49.0	682	18.3	754	2.62	826	0.347		
395	0.216	467	20.0	539	33.4	611	48.7	683	17.9	755	2.55	827	0.340		
396	0.217	468	19.2	540	33.7	612	48.6	684	17.4	756	2.48	828	0.335		
397	0.220	469	18.3	541	34.0	613	48.5	685	17.1	757	2.42	829	0.321		
398	0.235	470	17.5	542	34.3	614	48.3	686	16.7	758	2.35	830	0.317		
399	0.237	471	16.7	543	34.8	615	48.0	687	16.2	759	2.28	831	0.309		
400	0.238	472	15.8	544	35.1	616	47.8	688	15.9	760	2.22	832	0.303		
401	0.245	473	15.0	545	35.4	617	47.5	689	15.5	761	2.15	833	0.295		
402	0.258	474	14.1	546	35.7	618	47.2	690	15.1	762	2.09	834	0.286		
403	0.276	475	13.3	547	36.1	619	47.0	691	14.8	763	2.03	835	0.280		
404	0.285	476	12.7	548	36.5	620	46.7	692	14.4	764	1.98	836	0.271		
405	0.306	477	12.1	549	36.9	621	46.4	693	14.0	765	1.91	837	0.265		
406	0.318	478	11.6	550	37.2	622	46.1	694	13.7	766	1.86	838	0.258		
407	0.355	479	11.2	551	37.6	623	45.7	695	13.4	767	1.81	839	0.251		
408	0.371	480	10.9	552	37.8	624	45.5	696	13.0	768	1.76	840	0.244		
409	0.410	481	10.8	553	38.3	625	45.1	697	12.7	769	1.70	841	0.238		
410	0.449	482	10.7	554	38.7	626	44.7	698	12.4	770	1.66	842	0.234		
411	0.489	483	10.7	555	39.0	627	44.4	699	12.1	771	1.61	843	0.227		
412	0.552	484	10.7	556	39.4	628	44.1	700	11.8	772	1.57	844	0.227		
413	0.624	485	10.8	557	39.7	629	43.7	701	11.5	773	1.52	845	0.220		
414	0.689	486	11.0	558	40.1	630	43.4	702	11.2	774	1.48	846	0.216		
415	0.770	487	11.0	559	40.4	631	42.9	703	10.9	775	1.43	847	0.210		
416	0.877	488	11.3	560	40.8	632	42.5	704	10.6	776	1.39	848	0.203		
417	0.996	489	11.6	561	41.2	633	42.1	705	10.4	777	1.35	849	0.200		
418	1.12	490	11.8	562	41.6	634	41.7	706	10.1	778	1.31	850	0.192		
419	1.27	491	12.2	563	42.0	635	41.2	707	9.82	779	1.28				
420	1.44	492	12.5	564	42.3	636	40.8	708	9.56	780	1.24				
421	1.64	493	12.9	565	42.6	637	40.3	709	9.32	781	1.21				