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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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1407 W. 10th Place, Suite 107
Tempe, AZ 85018
United States

Catalog Number
14 B2-LP-L-358USD-A072000

Order Number
10520546
Test Number
785426

Test Date
2014-10-17

Prepared By

Handwritten signature of Dane Hernandez-Adams in black ink.

Dane Hernandez-Adams, Technician

Approved By

Handwritten signature of Zachary Mooney in black ink.

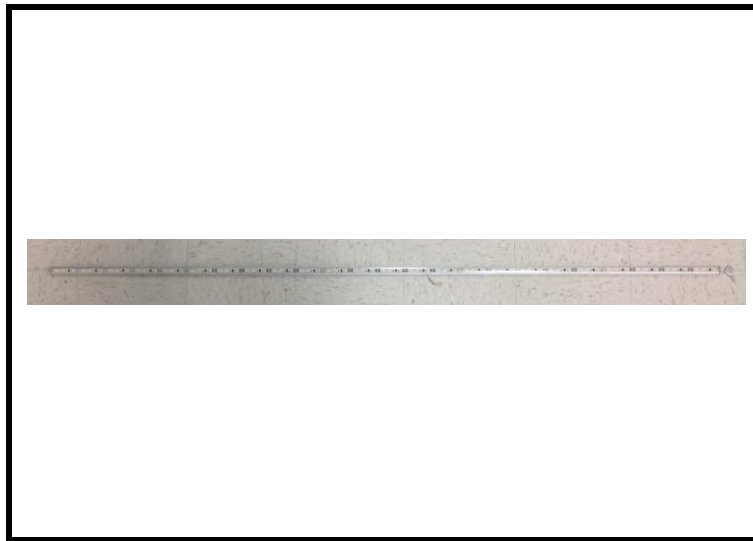
Zachary Mooney, Engineer Project Associate

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Grey aluminum housing, clear plastic enclosure
Catalog Number: 14 B2-LP-L-358USD-A072000
Lamp: 72 white LEDs
Mounting: Surface
Ballast/Driver: One High Perfection Tech. LP1090-24-GG-290

Luminaire



Summary of Results

Radiant Flux: 10360 mW
Luminous Flux: 3242 Lumens
Luminaire Efficacy: 72.3 Lumens/Watt
CCT: 3409 K
CRI (Ra): 83.1
Chromaticity (x): 0.4083
Chromaticity (y): 0.3880
Chromaticity (u): 0.2388
Chromaticity (v): 0.3404
Duv: -0.0023

Test Conditions

Test Temperature: 25.0 °C
Voltage: 120.0 VAC
Current: 0.3810 A
Power: 44.86 W
Power Factor: 0.982
Frequency: 60 Hz
Current THD: 9.22 %

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

Absorption correction was employed for this measurement.

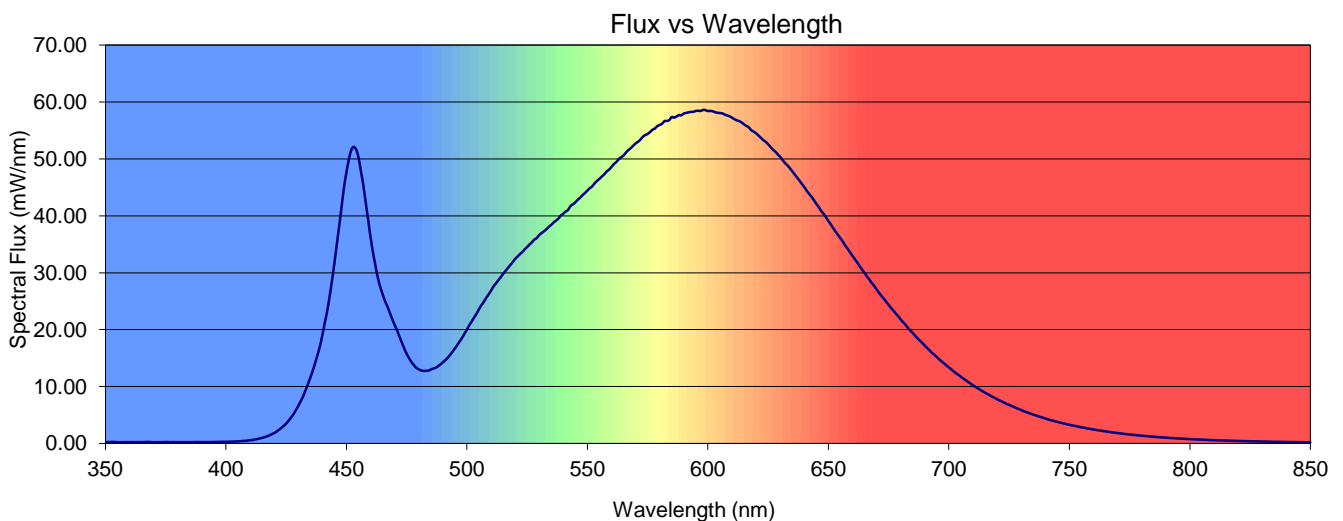
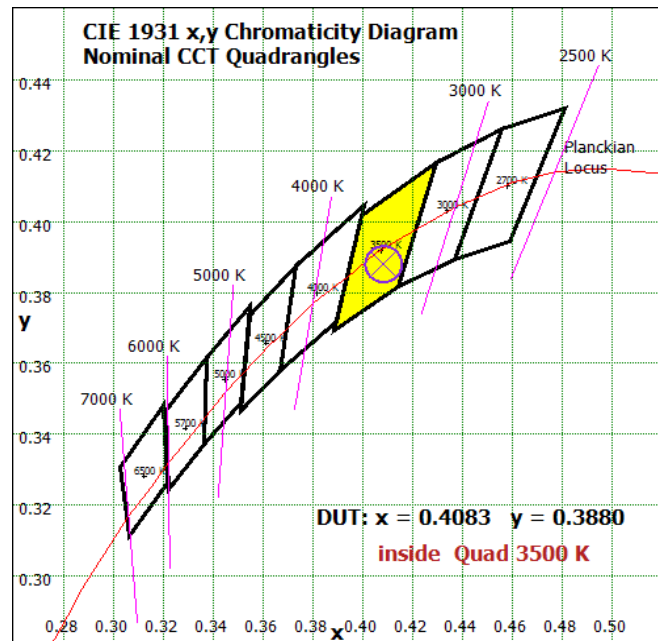
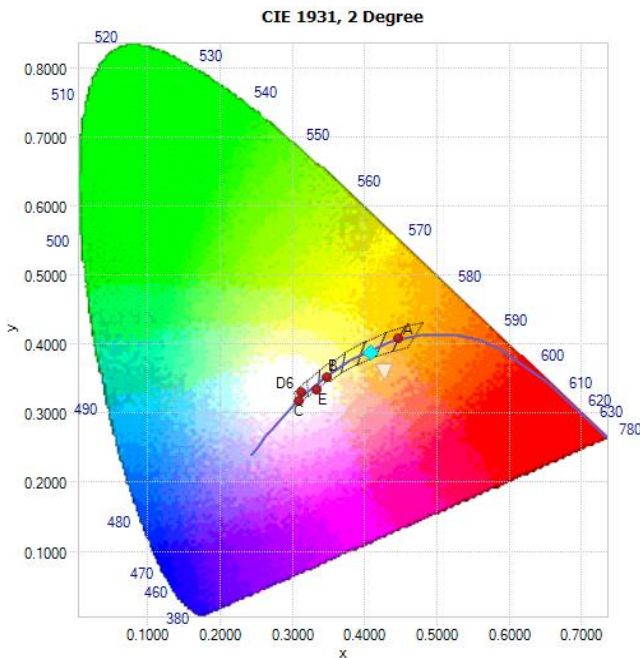


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.4083	0.3880	0.2388	0.3404	0.2388	0.5106	-0.0023

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83.1	81.7	89.5	94.4	80.5	80.8	84.5	86.4	67.1	21.4	74.2	77.7	61.9	83.4	96.7





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	0.218	422	2.41	494	16.1	566	51.1	638	46.2	710	10.2	782	1.30
351	0.263	423	2.74	495	16.7	567	51.5	639	45.6	711	9.97	783	1.27
352	0.250	424	3.10	496	17.3	568	51.9	640	45.1	712	9.70	784	1.22
353	0.289	425	3.51	497	18.0	569	52.3	641	44.4	713	9.44	785	1.19
354	0.254	426	4.01	498	18.6	570	52.7	642	43.8	714	9.18	786	1.16
355	0.243	427	4.56	499	19.3	571	53.0	643	43.4	715	8.93	787	1.13
356	0.227	428	5.12	500	20.0	572	53.4	644	42.7	716	8.70	788	1.09
357	0.232	429	5.83	501	20.8	573	53.9	645	42.1	717	8.46	789	1.06
358	0.251	430	6.58	502	21.4	574	54.2	646	41.5	718	8.22	790	1.03
359	0.243	431	7.40	503	22.2	575	54.4	647	40.9	719	8.01	791	1.01
360	0.235	432	8.23	504	22.8	576	54.7	648	40.4	720	7.79	792	0.976
361	0.251	433	9.30	505	23.6	577	55.1	649	39.7	721	7.57	793	0.951
362	0.229	434	10.4	506	24.3	578	55.3	650	39.1	722	7.38	794	0.919
363	0.250	435	11.5	507	24.9	579	55.8	651	38.5	723	7.17	795	0.890
364	0.239	436	12.7	508	25.6	580	56.0	652	37.8	724	6.96	796	0.865
365	0.245	437	14.1	509	26.2	581	56.2	653	37.2	725	6.79	797	0.838
366	0.254	438	15.5	510	26.8	582	56.6	654	36.6	726	6.61	798	0.820
367	0.270	439	17.1	511	27.6	583	56.7	655	36.1	727	6.42	799	0.797
368	0.282	440	19.0	512	28.1	584	56.8	656	35.5	728	6.23	800	0.777
369	0.245	441	21.1	513	28.7	585	57.3	657	34.8	729	6.06	801	0.749
370	0.224	442	23.2	514	29.2	586	57.3	658	34.2	730	5.88	802	0.735
371	0.235	443	25.7	515	29.8	587	57.4	659	33.6	731	5.70	803	0.714
372	0.243	444	28.5	516	30.3	588	57.7	660	33.0	732	5.55	804	0.696
373	0.238	445	31.6	517	30.8	589	57.6	661	32.4	733	5.39	805	0.680
374	0.246	446	34.9	518	31.4	590	58.0	662	31.8	734	5.24	806	0.662
375	0.260	447	38.1	519	31.9	591	58.1	663	31.2	735	5.09	807	0.637
376	0.260	448	41.6	520	32.4	592	58.2	664	30.5	736	4.94	808	0.621
377	0.231	449	45.0	521	32.8	593	58.3	665	30.0	737	4.80	809	0.600
378	0.257	450	47.6	522	33.3	594	58.3	666	29.4	738	4.66	810	0.585
379	0.238	451	49.8	523	33.6	595	58.4	667	28.8	739	4.54	811	0.573
380	0.239	452	51.5	524	34.1	596	58.5	668	28.2	740	4.40	812	0.558
381	0.237	453	52.1	525	34.5	597	58.4	669	27.7	741	4.26	813	0.540
382	0.233	454	51.7	526	35.0	598	58.6	670	27.1	742	4.14	814	0.533
383	0.225	455	50.3	527	35.4	599	58.6	671	26.5	743	4.03	815	0.517
384	0.245	456	47.9	528	35.8	600	58.4	672	26.0	744	3.92	816	0.502
385	0.234	457	45.5	529	36.1	601	58.4	673	25.4	745	3.80	817	0.494
386	0.241	458	42.4	530	36.6	602	58.4	674	24.9	746	3.69	818	0.478
387	0.251	459	39.4	531	37.0	603	58.2	675	24.4	747	3.59	819	0.465
388	0.268	460	36.3	532	37.3	604	58.1	676	23.8	748	3.49	820	0.452
389	0.251	461	33.6	533	37.6	605	58.1	677	23.3	749	3.39	821	0.439
390	0.255	462	31.4	534	38.1	606	58.0	678	22.8	750	3.29	822	0.425
391	0.250	463	29.2	535	38.4	607	57.8	679	22.4	751	3.20	823	0.417
392	0.237	464	27.6	536	38.8	608	57.6	680	21.8	752	3.11	824	0.408
393	0.254	465	26.3	537	39.2	609	57.5	681	21.3	753	3.03	825	0.399
394	0.254	466	25.0	538	39.5	610	57.2	682	20.9	754	2.93	826	0.383
395	0.262	467	24.1	539	40.0	611	57.0	683	20.3	755	2.85	827	0.377
396	0.268	468	23.0	540	40.4	612	56.8	684	19.9	756	2.77	828	0.367
397	0.285	469	21.9	541	40.8	613	56.6	685	19.4	757	2.70	829	0.357
398	0.302	470	20.9	542	41.0	614	56.4	686	18.9	758	2.62	830	0.350
399	0.304	471	19.9	543	41.7	615	56.1	687	18.5	759	2.54	831	0.340
400	0.295	472	18.8	544	42.0	616	55.8	688	18.1	760	2.46	832	0.330
401	0.313	473	17.8	545	42.4	617	55.5	689	17.6	761	2.39	833	0.322
402	0.327	474	16.7	546	42.8	618	55.0	690	17.2	762	2.33	834	0.313
403	0.337	475	15.8	547	43.2	619	54.8	691	16.8	763	2.27	835	0.303
404	0.354	476	15.0	548	43.6	620	54.5	692	16.4	764	2.20	836	0.304
405	0.382	477	14.3	549	44.0	621	54.1	693	15.9	765	2.13	837	0.297
406	0.414	478	13.8	550	44.4	622	53.7	694	15.6	766	2.08	838	0.287
407	0.447	479	13.3	551	44.9	623	53.3	695	15.2	767	2.00	839	0.280
408	0.475	480	13.0	552	45.2	624	53.0	696	14.8	768	1.95	840	0.271
409	0.521	481	12.8	553	45.7	625	52.6	697	14.4	769	1.89	841	0.264
410	0.587	482	12.8	554	46.1	626	52.1	698	14.1	770	1.84	842	0.260
411	0.624	483	12.8	555	46.5	627	51.6	699	13.7	771	1.78	843	0.249
412	0.695	484	12.8	556	46.9	628	51.3	700	13.4	772	1.73	844	0.244
413	0.786	485	13.0	557	47.3	629	50.8	701	13.0	773	1.68	845	0.241
414	0.888	486	13.2	558	47.8	630	50.4	702	12.7	774	1.63	846	0.244
415	0.983	487	13.3	559	48.1	631	49.8	703	12.3	775	1.60	847	0.234
416	1.11	488	13.6	560	48.6	632	49.3	704	12.0	776	1.54	848	0.222
417	1.25	489	13.9	561	49.1	633	48.9	705	11.7	777	1.50	849	0.214
418	1.44	490	14.2	562	49.4	634	48.4	706	11.4	778	1.45	850	0.209
419	1.62	491	14.6	563	49.9	635	47.8	707	11.1	779	1.42		
420	1.83	492	15.0	564	50.3	636	47.3	708	10.8	780	1.37		
421	2.09	493	15.6	565	50.6	637	46.7	709	10.5	781	1.33		