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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
10 B2-RD--358USD-A072000

Order Number
10520546
Test Number
785416

Test Date
2014-10-16

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.

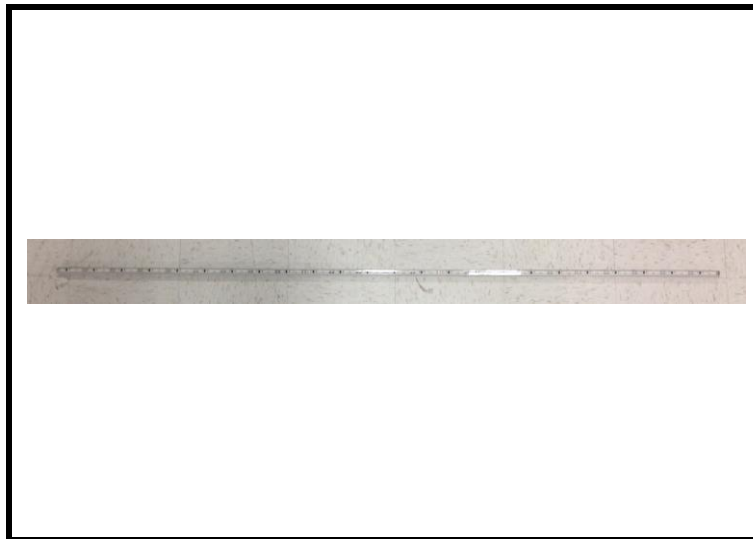
Zachary Mooney, Engineer Project Associate

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: 10 B2-RD--358USD-A072000
Lamp: 72 white LEDs
Mounting: Surface
Ballast/Driver: One High Perfection Tech. LP1090-24-GG-290

Luminaire



Summary of Results

Radiant Flux:	9750 mW
Luminous Flux:	3045 Lumens
Luminaire Efficacy:	67.8 Lumens/Watt
CCT:	3413 K
CRI (Ra):	83.3
Chromaticity (x):	0.4079
Chromaticity (y):	0.3874
Chromaticity (u):	0.2388
Chromaticity (v):	0.3402
Duv:	-0.0024

Test Conditions

Test Temperature:	24.6 °C
Voltage:	120.0 VAC
Current:	0.3812 A
Power:	44.91 W
Power Factor:	0.982
Frequency:	60 Hz
Current THD:	9.17 %

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

Absorption correction was employed for this measurement.

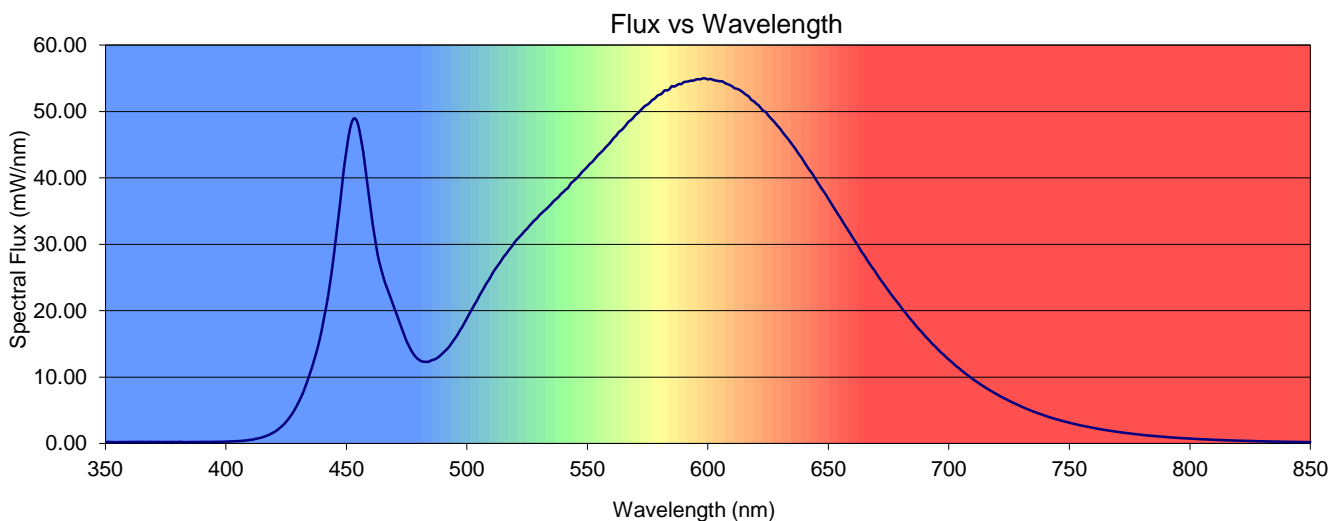
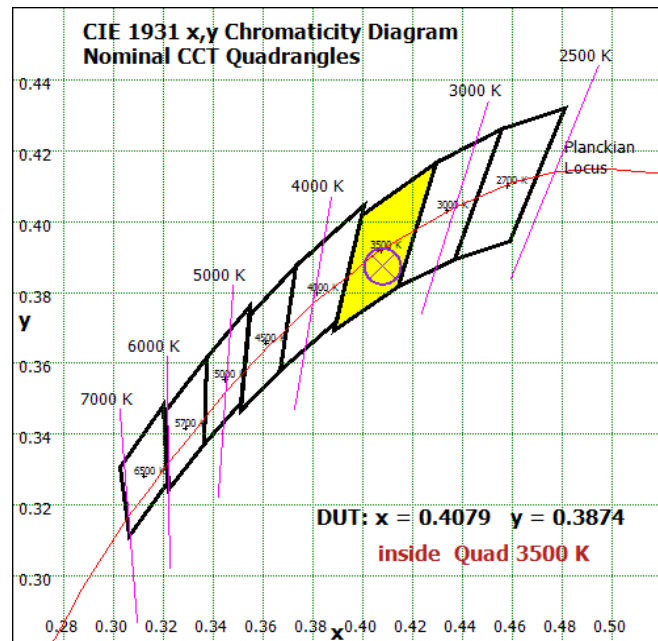
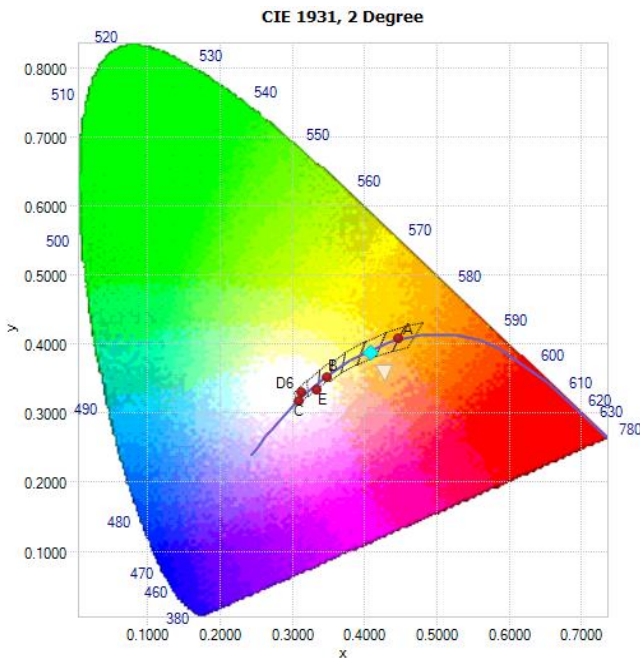


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.4079	0.3874	0.2388	0.3402	0.2388	0.5103	-0.0024

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83.3	81.9	89.8	94.6	80.6	81.1	84.9	86.4	67.4	22.3	74.9	77.8	62.3	83.7	96.9





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	0.200	422	2.23	494	15.3	566	47.9	638	43.4	710	9.68	782	1.23
351	0.245	423	2.54	495	15.8	567	48.4	639	43.0	711	9.43	783	1.20
352	0.217	424	2.87	496	16.3	568	48.7	640	42.4	712	9.19	784	1.16
353	0.222	425	3.27	497	17.0	569	49.0	641	41.8	713	8.94	785	1.14
354	0.198	426	3.71	498	17.5	570	49.5	642	41.3	714	8.70	786	1.10
355	0.212	427	4.22	499	18.2	571	49.8	643	40.8	715	8.46	787	1.08
356	0.220	428	4.77	500	18.8	572	50.1	644	40.2	716	8.25	788	1.04
357	0.220	429	5.40	501	19.5	573	50.5	645	39.6	717	8.02	789	1.01
358	0.217	430	6.09	502	20.2	574	50.8	646	39.1	718	7.81	790	0.982
359	0.220	431	6.84	503	20.8	575	51.0	647	38.5	719	7.59	791	0.952
360	0.243	432	7.64	504	21.4	576	51.4	648	38.0	720	7.39	792	0.927
361	0.234	433	8.60	505	22.1	577	51.7	649	37.4	721	7.18	793	0.897
362	0.231	434	9.62	506	22.8	578	51.9	650	36.8	722	6.99	794	0.872
363	0.232	435	10.7	507	23.4	579	52.4	651	36.3	723	6.80	795	0.848
364	0.246	436	11.8	508	24.0	580	52.5	652	35.7	724	6.62	796	0.825
365	0.240	437	13.0	509	24.6	581	52.7	653	35.1	725	6.44	797	0.801
366	0.229	438	14.3	510	25.2	582	53.2	654	34.5	726	6.26	798	0.785
367	0.239	439	15.8	511	25.9	583	53.2	655	34.0	727	6.08	799	0.760
368	0.231	440	17.5	512	26.4	584	53.3	656	33.4	728	5.92	800	0.744
369	0.253	441	19.5	513	26.9	585	53.8	657	32.8	729	5.76	801	0.724
370	0.222	442	21.3	514	27.4	586	53.7	658	32.2	730	5.58	802	0.705
371	0.235	443	23.6	515	28.0	587	53.9	659	31.7	731	5.42	803	0.683
372	0.246	444	26.1	516	28.4	588	54.1	660	31.1	732	5.27	804	0.660
373	0.219	445	29.0	517	28.9	589	54.1	661	30.5	733	5.12	805	0.642
374	0.222	446	32.0	518	29.4	590	54.4	662	30.0	734	4.97	806	0.626
375	0.230	447	35.0	519	29.9	591	54.5	663	29.4	735	4.83	807	0.610
376	0.229	448	38.2	520	30.4	592	54.5	664	28.8	736	4.70	808	0.597
377	0.231	449	41.4	521	30.8	593	54.6	665	28.3	737	4.56	809	0.581
378	0.235	450	44.1	522	31.2	594	54.6	666	27.7	738	4.44	810	0.563
379	0.212	451	46.4	523	31.6	595	54.8	667	27.1	739	4.31	811	0.543
380	0.221	452	48.1	524	32.0	596	54.9	668	26.6	740	4.17	812	0.534
381	0.248	453	48.9	525	32.3	597	54.8	669	26.1	741	4.05	813	0.520
382	0.231	454	48.8	526	32.8	598	55.0	670	25.6	742	3.95	814	0.511
383	0.213	455	47.8	527	33.2	599	55.0	671	25.0	743	3.82	815	0.494
384	0.211	456	45.9	528	33.6	600	54.8	672	24.5	744	3.72	816	0.479
385	0.226	457	43.8	529	33.9	601	54.9	673	24.0	745	3.62	817	0.468
386	0.225	458	41.1	530	34.3	602	54.8	674	23.5	746	3.52	818	0.457
387	0.226	459	38.3	531	34.7	603	54.7	675	23.0	747	3.41	819	0.449
388	0.232	460	35.5	532	35.0	604	54.6	676	22.5	748	3.31	820	0.429
389	0.236	461	32.8	533	35.3	605	54.5	677	22.0	749	3.22	821	0.420
390	0.237	462	30.6	534	35.7	606	54.5	678	21.6	750	3.13	822	0.409
391	0.243	463	28.4	535	36.1	607	54.3	679	21.1	751	3.04	823	0.397
392	0.241	464	26.8	536	36.5	608	54.1	680	20.6	752	2.95	824	0.388
393	0.236	465	25.5	537	36.8	609	54.0	681	20.1	753	2.88	825	0.379
394	0.242	466	24.3	538	37.1	610	53.8	682	19.7	754	2.79	826	0.372
395	0.246	467	23.3	539	37.6	611	53.5	683	19.2	755	2.71	827	0.360
396	0.255	468	22.3	540	37.9	612	53.4	684	18.8	756	2.63	828	0.346
397	0.250	469	21.3	541	38.2	613	53.3	685	18.3	757	2.57	829	0.340
398	0.261	470	20.3	542	38.5	614	53.0	686	17.9	758	2.49	830	0.334
399	0.266	471	19.3	543	39.1	615	52.7	687	17.5	759	2.42	831	0.324
400	0.289	472	18.3	544	39.4	616	52.5	688	17.1	760	2.34	832	0.317
401	0.292	473	17.3	545	39.8	617	52.2	689	16.7	761	2.28	833	0.304
402	0.316	474	16.3	546	40.1	618	51.8	690	16.2	762	2.21	834	0.297
403	0.324	475	15.4	547	40.5	619	51.6	691	15.8	763	2.15	835	0.294
404	0.349	476	14.7	548	41.0	620	51.2	692	15.5	764	2.09	836	0.290
405	0.363	477	13.9	549	41.3	621	50.9	693	15.1	765	2.03	837	0.284
406	0.385	478	13.4	550	41.7	622	50.5	694	14.7	766	1.97	838	0.270
407	0.415	479	12.9	551	42.1	623	50.1	695	14.4	767	1.91	839	0.264
408	0.445	480	12.6	552	42.4	624	49.9	696	14.0	768	1.86	840	0.255
409	0.490	481	12.4	553	42.8	625	49.4	697	13.6	769	1.81	841	0.255
410	0.549	482	12.3	554	43.2	626	49.0	698	13.3	770	1.76	842	0.246
411	0.590	483	12.3	555	43.6	627	48.6	699	13.0	771	1.70	843	0.242
412	0.669	484	12.3	556	44.0	628	48.2	700	12.6	772	1.66	844	0.234
413	0.741	485	12.5	557	44.3	629	47.8	701	12.3	773	1.61	845	0.234
414	0.835	486	12.6	558	44.8	630	47.4	702	12.0	774	1.56	846	0.225
415	0.919	487	12.7	559	45.1	631	46.9	703	11.7	775	1.52	847	0.220
416	1.04	488	13.0	560	45.6	632	46.4	704	11.4	776	1.47	848	0.215
417	1.18	489	13.3	561	46.0	633	46.0	705	11.1	777	1.43	849	0.211
418	1.33	490	13.6	562	46.4	634	45.5	706	10.8	778	1.39	850	0.201
419	1.51	491	14.0	563	46.9	635	45.0	707	10.5	779	1.35		
420	1.71	492	14.3	564	47.2	636	44.5	708	10.2	780	1.31		
421	1.95	493	14.8	565	47.5	637	44.0	709	9.96	781	1.27		