



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

Eureka Lighting, Inc.

Dirk Zylstra

225 DeLiege Quest

Montreal, Canada

H2P 1H4

Catalog Number

LED.4.40.17 / 1814C-9.35.CC.350 / 1141A-H WH

LTL Test Number

25340

Test Date

2011-09-02

Prepared By

Eric Gaudreau, Technician III

Approved By

Brian Moyer, Engineer

The results contained in this report pertain only to the tested sample.

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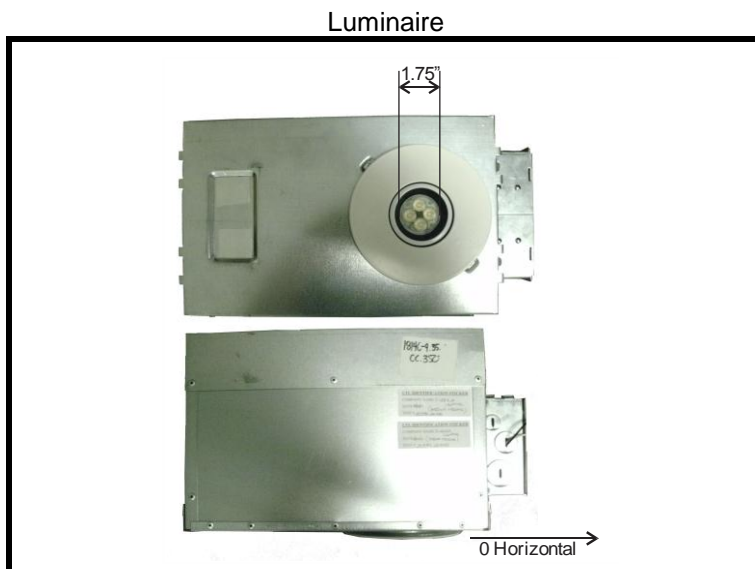


Luminaire Description: Formed steel housing, machined aluminum heatsink, machined black enamel lower reflector above formed white enamel steel trim, no enclosure

Catalog Number: LED.4.40.17 / 1814C-9.35.CC.350 / 1141A-H WH

Lamp: Four white LEDs with frosted plastic optics

Mounting: Recessed



Summary of Results

Radiant Flux:	1027 mW
Luminous Flux:	322.9 Lumens
Luminaire Efficacy:	63.2 Lumens/Watt
CCT:	3986 K
CRI (Ra):	84.3
Chromaticity (x):	0.3821
Chromaticity (y):	0.3814
Chromaticity (u):	0.2244
Chromaticity (v):	0.3359
Duv:	0.0017

Test Conditions

Test Temperature:	24.3 °C
Voltage:	120.0 VAC
Current:	0.07322 A
Power:	5.110 W
Power Factor:	0.582
Frequency:	60 Hz
Current THD:	103 %

Testing was performed in a Labsphere SLMS7650 two meter integrating sphere using the 4 π geometry method, a Labsphere CDS 1100 spectrometer, and LightMtrX software.
Absorption correction was employed for this measurement.

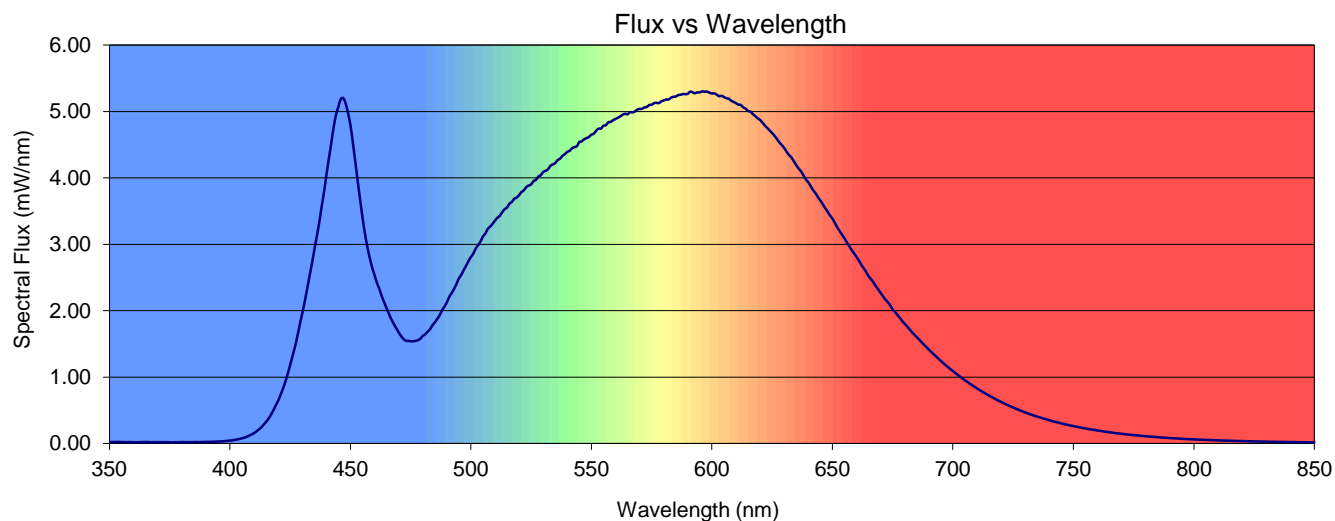
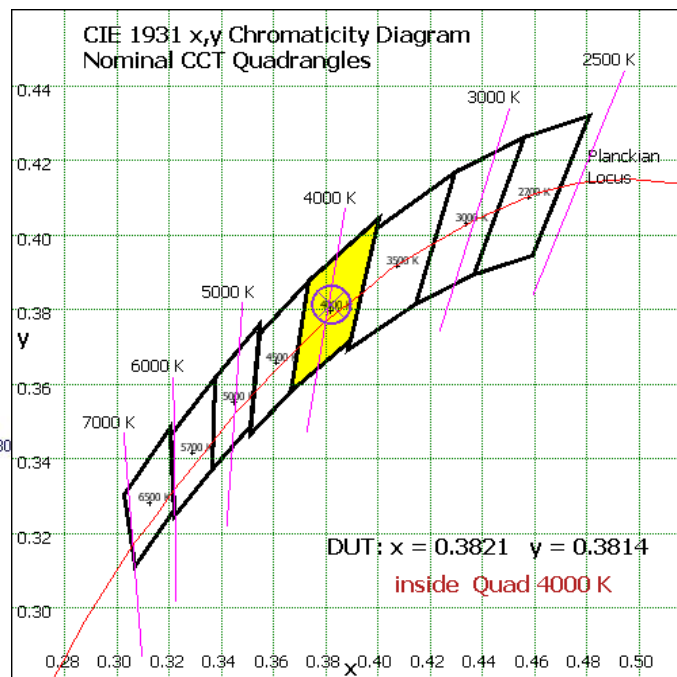
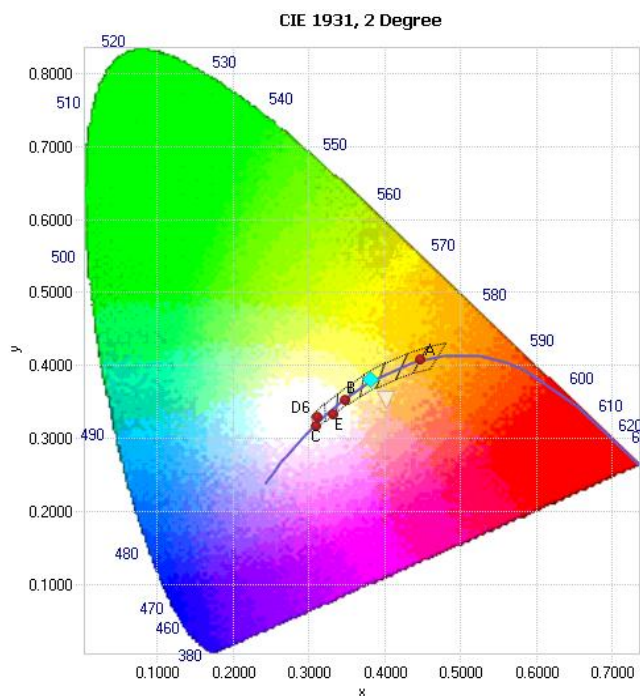


Chromaticity Coordinates

x	y	u	v	u'	v'	Duv
0.3821	0.3814	0.2244	0.3359	0.2244	0.5039	0.0017

Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
84.3	82.9	87.9	91.9	84.9	83.0	83.6	88.7	71.9	25.0	71.4	83.9	68.1	83.6	95.3





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	0.0243	422	0.824	494	2.40	566	4.99	638	4.04	710	0.830	782	0.104
351	0.0227	423	0.930	495	2.49	567	4.99	639	3.98	711	0.807	783	0.100
352	0.0234	424	1.05	496	2.54	568	5.00	640	3.93	712	0.786	784	0.0982
353	0.0240	425	1.18	497	2.61	569	5.03	641	3.87	713	0.763	785	0.0953
354	0.0242	426	1.32	498	2.68	570	5.04	642	3.81	714	0.742	786	0.0917
355	0.0218	427	1.46	499	2.75	571	5.04	643	3.77	715	0.722	787	0.0895
356	0.0228	428	1.61	500	2.81	572	5.06	644	3.71	716	0.702	788	0.0874
357	0.0208	429	1.79	501	2.86	573	5.07	645	3.66	717	0.682	789	0.0847
358	0.0211	430	1.95	502	2.94	574	5.10	646	3.60	718	0.663	790	0.0827
359	0.0214	431	2.13	503	2.98	575	5.10	647	3.54	719	0.644	791	0.0800
360	0.0197	432	2.32	504	3.04	576	5.12	648	3.49	720	0.628	792	0.0780
361	0.0196	433	2.51	505	3.12	577	5.13	649	3.43	721	0.608	793	0.0758
362	0.0180	434	2.70	506	3.16	578	5.13	650	3.39	722	0.591	794	0.0735
363	0.0214	435	2.91	507	3.23	579	5.15	651	3.32	723	0.574	795	0.0709
364	0.0206	436	3.11	508	3.27	580	5.17	652	3.26	724	0.558	796	0.0695
365	0.0224	437	3.31	509	3.31	581	5.18	653	3.20	725	0.543	797	0.0675
366	0.0217	438	3.55	510	3.36	582	5.18	654	3.15	726	0.527	798	0.0657
367	0.0195	439	3.77	511	3.40	583	5.21	655	3.09	727	0.512	799	0.0639
368	0.0191	440	4.03	512	3.43	584	5.22	656	3.03	728	0.497	800	0.0623
369	0.0206	441	4.27	513	3.48	585	5.22	657	2.97	729	0.482	801	0.0607
370	0.0202	442	4.50	514	3.53	586	5.25	658	2.91	730	0.469	802	0.0583
371	0.0206	443	4.75	515	3.55	587	5.25	659	2.86	731	0.456	803	0.0574
372	0.0201	444	4.94	516	3.61	588	5.26	660	2.81	732	0.442	804	0.0558
373	0.0196	445	5.07	517	3.64	589	5.26	661	2.75	733	0.429	805	0.0546
374	0.0213	446	5.19	518	3.69	590	5.27	662	2.69	734	0.416	806	0.0528
375	0.0185	447	5.20	519	3.70	591	5.30	663	2.64	735	0.405	807	0.0515
376	0.0175	448	5.12	520	3.74	592	5.29	664	2.58	736	0.394	808	0.0497
377	0.0194	449	4.98	521	3.79	593	5.27	665	2.52	737	0.383	809	0.0485
378	0.0190	450	4.80	522	3.81	594	5.29	666	2.48	738	0.372	810	0.0471
379	0.0195	451	4.54	523	3.86	595	5.29	667	2.43	739	0.361	811	0.0456
380	0.0209	452	4.25	524	3.88	596	5.30	668	2.37	740	0.352	812	0.0445
381	0.0204	453	3.96	525	3.90	597	5.30	669	2.32	741	0.340	813	0.0439
382	0.0206	454	3.68	526	3.95	598	5.30	670	2.27	742	0.330	814	0.0422
383	0.0210	455	3.41	527	3.97	599	5.28	671	2.22	743	0.321	815	0.0416
384	0.0209	456	3.17	528	4.02	600	5.27	672	2.17	744	0.312	816	0.0404
385	0.0212	457	2.97	529	4.04	601	5.27	673	2.13	745	0.303	817	0.0394
386	0.0229	458	2.80	530	4.09	602	5.25	674	2.08	746	0.295	818	0.0383
387	0.0218	459	2.65	531	4.11	603	5.23	675	2.02	747	0.285	819	0.0375
388	0.0220	460	2.54	532	4.13	604	5.23	676	1.98	748	0.278	820	0.0364
389	0.0223	461	2.42	533	4.18	605	5.22	677	1.93	749	0.270	821	0.0353
390	0.0244	462	2.33	534	4.20	606	5.20	678	1.89	750	0.262	822	0.0345
391	0.0243	463	2.22	535	4.22	607	5.19	679	1.84	751	0.254	823	0.0338
392	0.0249	464	2.13	536	4.27	608	5.16	680	1.80	752	0.248	824	0.0326
393	0.0270	465	2.04	537	4.29	609	5.14	681	1.76	753	0.240	825	0.0317
394	0.0276	466	1.95	538	4.33	610	5.13	682	1.72	754	0.233	826	0.0310
395	0.0296	467	1.87	539	4.36	611	5.10	683	1.68	755	0.227	827	0.0305
396	0.0322	468	1.80	540	4.39	612	5.10	684	1.64	756	0.220	828	0.0298
397	0.0332	469	1.74	541	4.41	613	5.06	685	1.60	757	0.214	829	0.0286
398	0.0371	470	1.68	542	4.45	614	5.04	686	1.57	758	0.208	830	0.0281
399	0.0397	471	1.62	543	4.46	615	5.01	687	1.53	759	0.203	831	0.0274
400	0.0444	472	1.58	544	4.48	616	5.00	688	1.49	760	0.197	832	0.0262
401	0.0480	473	1.55	545	4.54	617	4.96	689	1.45	761	0.191	833	0.0261
402	0.0541	474	1.55	546	4.55	618	4.93	690	1.41	762	0.185	834	0.0255
403	0.0613	475	1.54	547	4.58	619	4.90	691	1.38	763	0.180	835	0.0245
404	0.0686	476	1.54	548	4.60	620	4.87	692	1.35	764	0.174	836	0.0245
405	0.0785	477	1.54	549	4.62	621	4.83	693	1.31	765	0.170	837	0.0234
406	0.0885	478	1.56	550	4.65	622	4.79	694	1.28	766	0.164	838	0.0229
407	0.102	479	1.58	551	4.66	623	4.75	695	1.25	767	0.160	839	0.0225
408	0.119	480	1.62	552	4.71	624	4.71	696	1.21	768	0.154	840	0.0218
409	0.136	481	1.64	553	4.74	625	4.67	697	1.18	769	0.151	841	0.0216
410	0.157	482	1.68	554	4.74	626	4.63	698	1.15	770	0.146	842	0.0210
411	0.183	483	1.72	555	4.78	627	4.58	699	1.12	771	0.142	843	0.0204
412	0.211	484	1.78	556	4.79	628	4.53	700	1.09	772	0.138	844	0.0202
413	0.243	485	1.82	557	4.84	629	4.49	701	1.06	773	0.134	845	0.0192
414	0.283	486	1.87	558	4.84	630	4.45	702	1.03	774	0.130	846	0.0189
415	0.325	487	1.93	559	4.87	631	4.39	703	1.01	775	0.127	847	0.0185
416	0.373	488	2.00	560	4.89	632	4.34	704	0.979	776	0.123	848	0.0181
417	0.431	489	2.06	561	4.91	633	4.31	705	0.952	777	0.120	849	0.0169
418	0.498	490	2.12	562	4.93	634	4.25	706	0.927	778	0.115	850	0.0174
419	0.571	491	2.21	563	4.95	635	4.19	707	0.902	779	0.113		
420	0.643	492	2.26	564	4.97	636	4.14	708	0.877	780	0.110		
421	0.730	493	2.33	565	4.96	637	4.10	709	0.853	781	0.106		