



Photometric Test Report

Relevant Standards

- IES LM-79-2008
- ANSI C82.77:2014

Prepared For RAB LIGHTING INC

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2019/10/11

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1.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2019/10/10	T8-19.5-48P2S-865-DE-BYP	E1

Remark(If any)

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2.0 Production Description

Luminaire Description: T8-19.5-48P2S-865-DE-BYP

Electrical Specification: 120V,50/60HZ

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	T8-19.5-48P2S-865-DE-BYP	Sample ID.	E1
Operate time (Min.)	90	Stabilization time (Min.)	45
Temperature (°C)	25.3	Humidity (%RH)	56.0

Test Method

The samples were tested according to the IES LM-79-2008.

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ± 0.2 percent under load.

The sample was measured using 4π geometry and operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Test Result

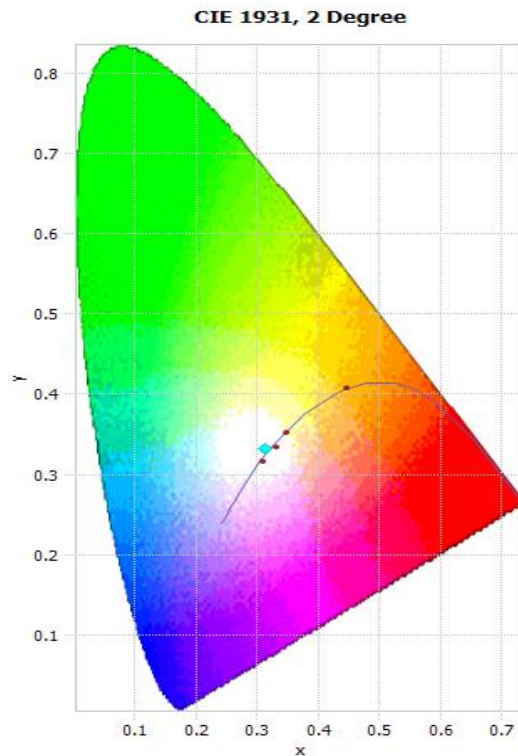
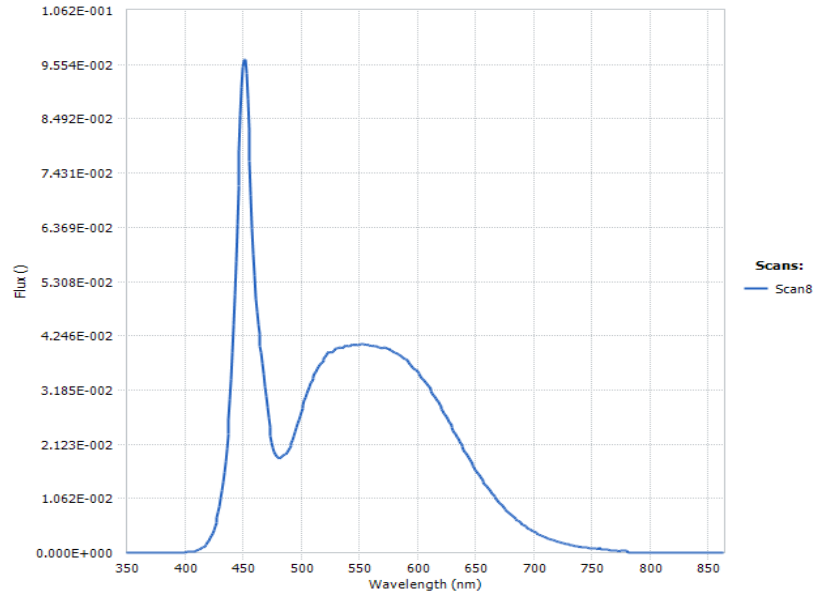
Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.03	60	0.173	20.5	0.986

Test Result

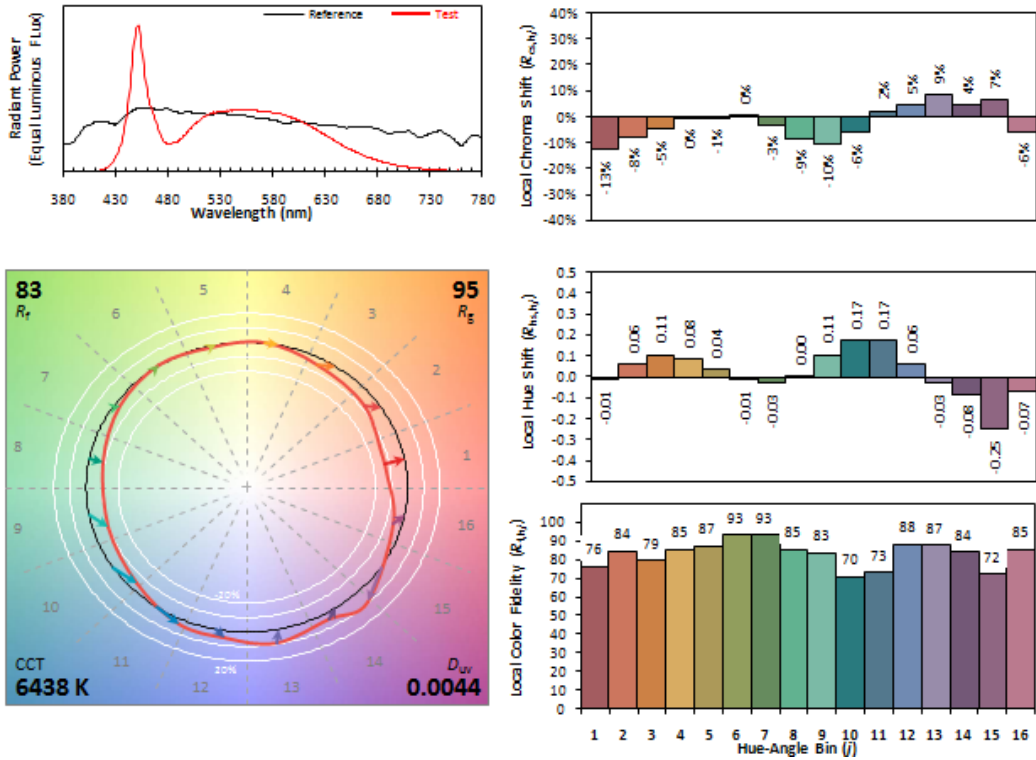
CCT (K)	CRI	Duv	Flux (lm)	Luminous Efficacy (lm/W)
6434	83	4.2E-03	2676	130.5
Rf	Rg	Rcs,h1		
83	95	-13.00%		

4.1 Integrating Sphere Test

$\Phi(v)$:	2.676E03	lumens
$\Phi(v)$:	5.890E03	lm'
Chrom x:	0.3135	
Chrom y:	0.3321	
Chrom u:	0.1973	
Chrom v:	0.3134	
Duv:	0.0042	
Chrom u':	0.1973	
Chrom v':	0.4701	
λ (peak):	451.3	nm
λ (center):	452.1	nm
λ (centroid):	540.9	nm
λ (dom):	490.9	nm
FWHM:	18.9	nm
Purity:	6.8	%
CCT:	6434.0	$^{\circ}$ K
η :	N/A	lm/W
SDCM:	3.6 F 6500	
Correlation:	0.0054	
Corr. Coef.:	0.001158839	
RA:	82.67700690	
R1:	80.9	
R2:	86.9	
R3:	89.8	
R4:	82.5	
R5:	81.2	
R6:	80.9	



4.1 Integrating Sphere Test



SPD Table

Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)
380	5.33E-05	421	2.39E-03	461	4.97E-02	501	2.83E-02	541	4.04E-02
381	8.55E-05	422	2.86E-03	462	4.71E-02	502	2.90E-02	542	4.04E-02
382	4.71E-05	423	3.28E-03	463	4.46E-02	503	2.99E-02	543	4.06E-02
383	2.41E-05	424	3.80E-03	464	4.27E-02	504	3.04E-02	544	4.07E-02
384	8.01E-05	425	4.38E-03	465	4.03E-02	505	3.13E-02	545	4.06E-02
385	7.61E-05	426	5.16E-03	466	3.91E-02	506	3.18E-02	546	4.07E-02
386	6.01E-05	427	5.92E-03	467	3.70E-02	507	3.24E-02	547	4.08E-02
387	5.58E-05	428	6.88E-03	468	3.49E-02	508	3.32E-02	548	4.07E-02
388	7.94E-05	429	7.86E-03	469	3.25E-02	509	3.34E-02	549	4.07E-02
389	5.85E-05	430	9.07E-03	470	3.06E-02	510	3.40E-02	550	4.07E-02
390	4.87E-05	431	1.06E-02	471	2.85E-02	511	3.46E-02	551	4.09E-02
391	8.37E-05	432	1.21E-02	472	2.63E-02	512	3.51E-02	552	4.07E-02
392	4.33E-05	433	1.38E-02	473	2.45E-02	513	3.55E-02	553	4.09E-02
393	6.37E-05	434	1.58E-02	474	2.29E-02	514	3.61E-02	554	4.09E-02
394	4.87E-05	435	1.77E-02	475	2.16E-02	515	3.64E-02	555	4.07E-02
395	3.56E-05	436	2.04E-02	476	2.06E-02	516	3.69E-02	556	4.09E-02
396	7.65E-05	437	2.33E-02	477	1.97E-02	517	3.71E-02	557	4.08E-02
397	7.20E-05	438	2.63E-02	478	1.93E-02	518	3.74E-02	558	4.07E-02
398	7.15E-05	439	2.99E-02	479	1.88E-02	519	3.77E-02	559	4.06E-02
399	9.14E-05	440	3.39E-02	480	1.87E-02	520	3.82E-02	560	4.04E-02
400	8.61E-05	441	3.91E-02	481	1.85E-02	521	3.83E-02	561	4.06E-02
401	9.15E-05	442	4.47E-02	482	1.86E-02	522	3.87E-02	562	4.05E-02
402	1.10E-04	443	5.05E-02	483	1.86E-02	523	3.91E-02	563	4.05E-02
403	1.61E-04	444	5.69E-02	484	1.88E-02	524	3.93E-02	564	4.05E-02
404	1.39E-04	445	6.43E-02	485	1.90E-02	525	3.92E-02	565	4.04E-02
405	1.60E-04	446	7.17E-02	486	1.92E-02	526	3.92E-02	566	4.02E-02
406	2.12E-04	447	7.88E-02	487	1.93E-02	527	3.94E-02	567	4.03E-02
407	2.44E-04	448	8.56E-02	488	1.97E-02	528	3.96E-02	568	4.02E-02
408	2.64E-04	449	9.10E-02	489	2.01E-02	529	3.95E-02	569	4.00E-02
409	3.06E-04	450	9.50E-02	490	2.06E-02	530	4.00E-02	570	4.00E-02
410	4.00E-04	451	9.65E-02	491	2.10E-02	531	4.00E-02	571	4.01E-02
411	4.40E-04	452	9.64E-02	492	2.15E-02	532	4.01E-02	572	4.01E-02
412	5.61E-04	453	9.37E-02	493	2.20E-02	533	4.01E-02	573	4.00E-02
413	6.44E-04	454	8.88E-02	494	2.28E-02	534	4.02E-02	574	4.00E-02
414	7.60E-04	455	8.26E-02	495	2.36E-02	535	4.00E-02	575	3.98E-02
415	9.52E-04	456	7.66E-02	496	2.44E-02	536	4.02E-02	576	3.99E-02
416	1.12E-03	457	6.98E-02	497	2.53E-02	537	4.03E-02	577	3.95E-02
417	1.29E-03	458	6.34E-02	498	2.60E-02	538	4.03E-02	578	3.96E-02
418	1.56E-03	459	5.85E-02	499	2.67E-02	539	4.06E-02	579	3.93E-02
419	1.78E-03	460	5.43E-02	500	2.76E-02	540	4.05E-02	580	3.92E-02
420	2.05E-03								

Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)	Wavel Length (nm)	Spectral Power (W/nm)
581	3.91E-02	621	2.80E-02	661	1.26E-02	701	4.03E-03	741	1.08E-03
582	3.89E-02	622	2.77E-02	662	1.23E-02	702	3.88E-03	742	1.08E-03
583	3.90E-02	623	2.71E-02	663	1.19E-02	703	3.74E-03	743	9.99E-04
584	3.88E-02	624	2.69E-02	664	1.16E-02	704	3.66E-03	744	1.05E-03
585	3.88E-02	625	2.65E-02	665	1.13E-02	705	3.55E-03	745	9.60E-04
586	3.86E-02	626	2.61E-02	666	1.10E-02	706	3.42E-03	746	9.64E-04
587	3.83E-02	627	2.56E-02	667	1.08E-02	707	3.29E-03	747	9.21E-04
588	3.82E-02	628	2.52E-02	668	1.05E-02	708	3.22E-03	748	9.05E-04
589	3.78E-02	629	2.49E-02	669	1.02E-02	709	3.10E-03	749	8.62E-04
590	3.80E-02	630	2.44E-02	670	9.86E-03	710	3.00E-03	750	8.19E-04
591	3.77E-02	631	2.39E-02	671	9.65E-03	711	2.91E-03	751	8.27E-04
592	3.73E-02	632	2.35E-02	672	9.37E-03	712	2.82E-03	752	8.16E-04
593	3.73E-02	633	2.33E-02	673	9.16E-03	713	2.75E-03	753	7.51E-04
594	3.68E-02	634	2.26E-02	674	8.89E-03	714	2.67E-03	754	7.41E-04
595	3.67E-02	635	2.24E-02	675	8.65E-03	715	2.60E-03	755	7.24E-04
596	3.63E-02	636	2.18E-02	676	8.44E-03	716	2.51E-03	756	9.43E-04
597	3.61E-02	637	2.14E-02	677	8.17E-03	717	2.43E-03	757	6.70E-04
598	3.58E-02	638	2.11E-02	678	8.00E-03	718	2.33E-03	758	6.32E-04
599	3.58E-02	639	2.06E-02	679	7.78E-03	719	2.29E-03	759	5.80E-04
600	3.54E-02	640	2.02E-02	680	7.49E-03	720	2.18E-03	760	5.97E-04
601	3.51E-02	641	1.97E-02	681	7.26E-03	721	2.11E-03	761	5.79E-04
602	3.49E-02	642	1.95E-02	682	7.11E-03	722	2.14E-03	762	5.77E-04
603	3.45E-02	643	1.91E-02	683	6.89E-03	723	2.04E-03	763	5.49E-04
604	3.42E-02	644	1.86E-02	684	6.72E-03	724	1.94E-03	764	5.95E-04
605	3.39E-02	645	1.82E-02	685	6.54E-03	725	1.87E-03	765	5.20E-04
606	3.37E-02	646	1.78E-02	686	6.25E-03	726	1.82E-03	766	4.75E-04
607	3.33E-02	647	1.74E-02	687	6.18E-03	727	1.77E-03	767	5.04E-04
608	3.30E-02	648	1.70E-02	688	6.01E-03	728	1.72E-03	768	4.64E-04
609	3.26E-02	649	1.66E-02	689	5.78E-03	729	1.67E-03	769	4.48E-04
610	3.24E-02	650	1.62E-02	690	5.54E-03	730	1.64E-03	770	4.20E-04
611	3.20E-02	651	1.59E-02	691	5.50E-03	731	1.54E-03	771	4.38E-04
612	3.16E-02	652	1.55E-02	692	5.29E-03	732	1.50E-03	772	3.83E-04
613	3.12E-02	653	1.52E-02	693	5.15E-03	733	1.48E-03	773	3.12E-04
614	3.08E-02	654	1.49E-02	694	5.00E-03	734	1.40E-03	774	4.09E-04
615	3.05E-02	655	1.45E-02	695	4.85E-03	735	1.35E-03	775	4.04E-04
616	3.01E-02	656	1.42E-02	696	4.61E-03	736	1.33E-03	776	3.73E-04
617	2.97E-02	657	1.38E-02	697	4.51E-03	737	1.29E-03	777	3.36E-04
618	2.96E-02	658	1.34E-02	698	4.41E-03	738	1.22E-03	778	3.70E-04
619	2.89E-02	659	1.32E-02	699	4.24E-03	739	1.07E-03	779	3.28E-04
620	2.86E-02	660	1.29E-02	700	4.13E-03	740	1.16E-03	780	3.77E-04

6.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2018/12/26	2019/12/25
DLF108	Auxiliary Lamp	2018/12/26	2019/12/25
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2018/12/26	2019/12/25
DLF116	AC Power Source	2018/12/26	2019/12/25
DLF113	Power Meter	2018/12/26	2019/12/25
DLF112	Temperature Recorder	2018/12/26	2019/12/25
DLF114	Temperature & Humidity Datalogger	2018/12/26	2019/12/25
DLF101	Goniophotometer	2018/12/26	2019/12/25
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2018/12/26	2019/12/25
DLF104	AC Power Source	2018/12/26	2019/12/25
DLF507	DC Power Source	2018/12/26	2019/12/25
DLF102	Power Meter	2018/12/26	2019/12/25
DLF111	Temperature & Humidity Datalogger	2018/12/26	2019/12/25
DLF119	Power Meter	2018/12/26	2019/12/25
DLF031	Temperature data logger	2018/12/26	2019/12/25
DLF022	Digital power meter	2018/12/26	2019/12/25
DLF003	Temperature & Humidity Datalogger	2018/12/26	2019/12/25

***** End of Test Report*****