

**Test Datasheet**

Test Location:	[]	1. B802, No.11 Caipin Road, Guangzhou Science City, Guangzhou, Guangdong, China	
	[✓]	2. R108, 1 st Floor No.69 GuangPu West Road, Guangzhou Science City, Guangzhou, Guangdong, China	
	[]	3. Other:	
Project No.:	GZN131003-6		Test by: Jackson Xu
Applicant:	Light Efficient Design		
Applicant Address	188 S. Northwest Highway, Cary, IL 60013, USA		
Standard/Method	IES LM-79 2008		

Test & Report By:*Jackson Xu***Jackson Xu****Date: 2013-10-29****Review By:***Tommy Liang***Tommy Liang**

Test No.	Done +++	Test Name
1	X	Electrical and Photometric Measurements:

Model No.	Sample No.	Sample acceptance Y/N	Product Identification and Ratings
LED-8027M42	1310018-1	Y	LED Lamp, 120-277 Vac, 60Hz employed LED of SAMSUNG LED, TYPE 5630

Model name(s):	LED-8027M42, LED-8027M42C	Representative (Tested) Model:	LED-8027M42	All construction are the same, except model name
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TEST METHODS

1. Seasoning in Sample Orientation:

See IES LM-80 report (LED products) or Energy Star Report for CFL/ILL.

2. Photometric and Electrical measurements – Light Distribution Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.

3. Photometric and Electrical Measurements – Integrating Sphere Method:

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 sample was operated at 120 Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at least 5 nm intervals over the range of 380 to 780 nm.

1 Electrical and Photometric Measurements
(Refer to Work Instruction QD25)

IES LM-79 2008

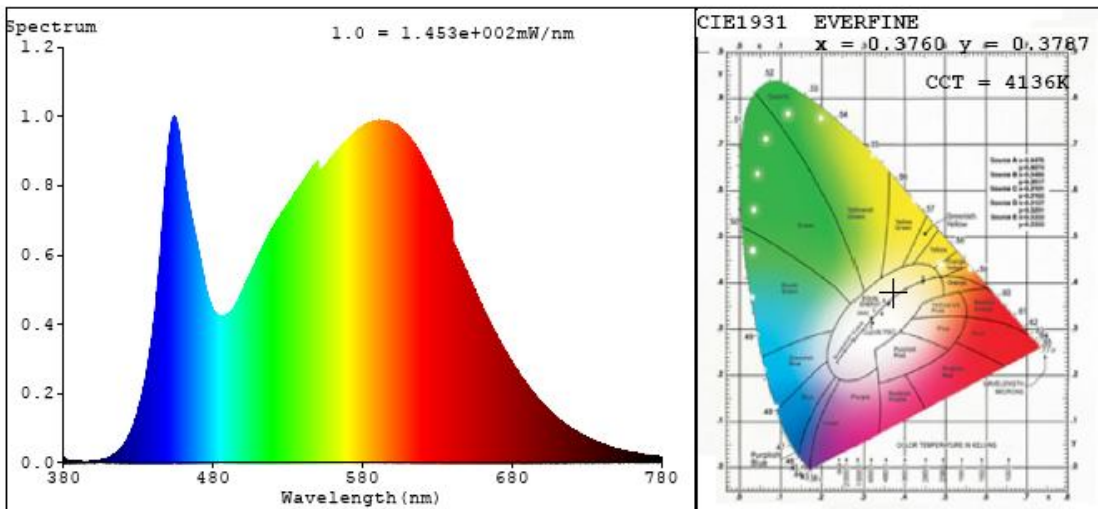
Electrical Measurement

Test date	2013-10-29		Test Ambient:	25.2 ° C		
Sample No.	Voltage (V AC)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
1310018-1	120.0	60	0.847	100.5	0.988	17.36%
	277.0	60	0.406	103.7	0.922	16.21%

Photometric and Chromaticity Measurements

Test date	2013-10-29		Test Ambient:	25.2 ° C		
Sample No.	Voltage (V AC)		Frequency (Hz)			
1310018-1	120.1		60			
Lumen Flux (lm)	Efficacy (lm/w)		CRI	R9	CCT (K)	
9516	94.67		85.0	20	4136	
Chromaticity Coordinate				Duv		
x=0.3760 y=0.3787		u'=0.2214 v'=0.5018		0.0022		

Color Data:



Colorimetric Quantities

Chromaticity Coordinate: x=0.3760 y=0.3787/u'=0.2214 v'=0.5018

CCT=4136K(Duv=0.0022) Dominant WL:Ld =577.3nm Purity=26.5%

Peak WL:Lp=453.7nm FWHM=32.9nm

Render Index:Ra=85.0

R1 =83 R2 =92 R3 =96 R4 =82 R5 =83 R6 =88 R7 =88

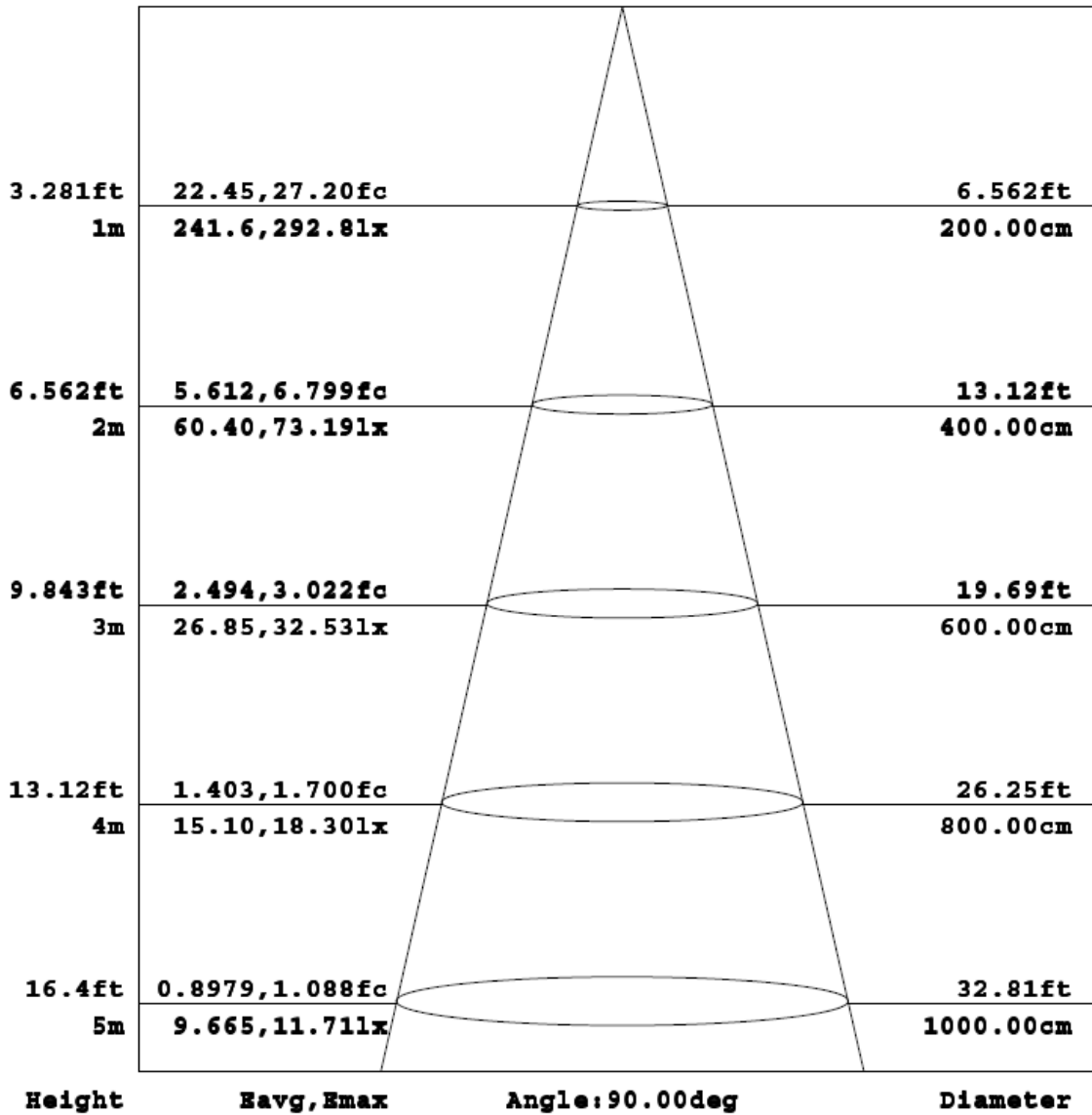
R8 =69 R9 =20 R10=79 R11=80 R12=63 R13=86 R14=98 R15=78

Zonal Lumen Summary

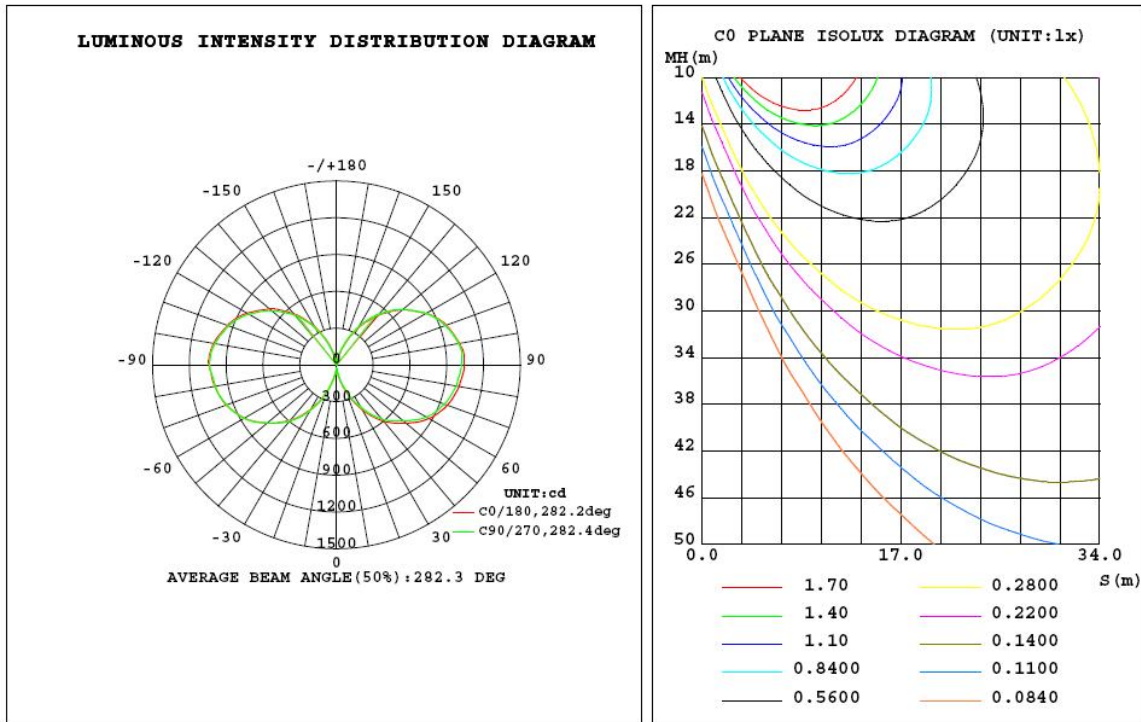
Zone	%Lamp / Luminaire
0 - 60	18.8 %
60 - 90	32.0 %
0 - 90	50.8 %
90 - 180	49.2 %
0 - 180	100 %

Illuminance Plots

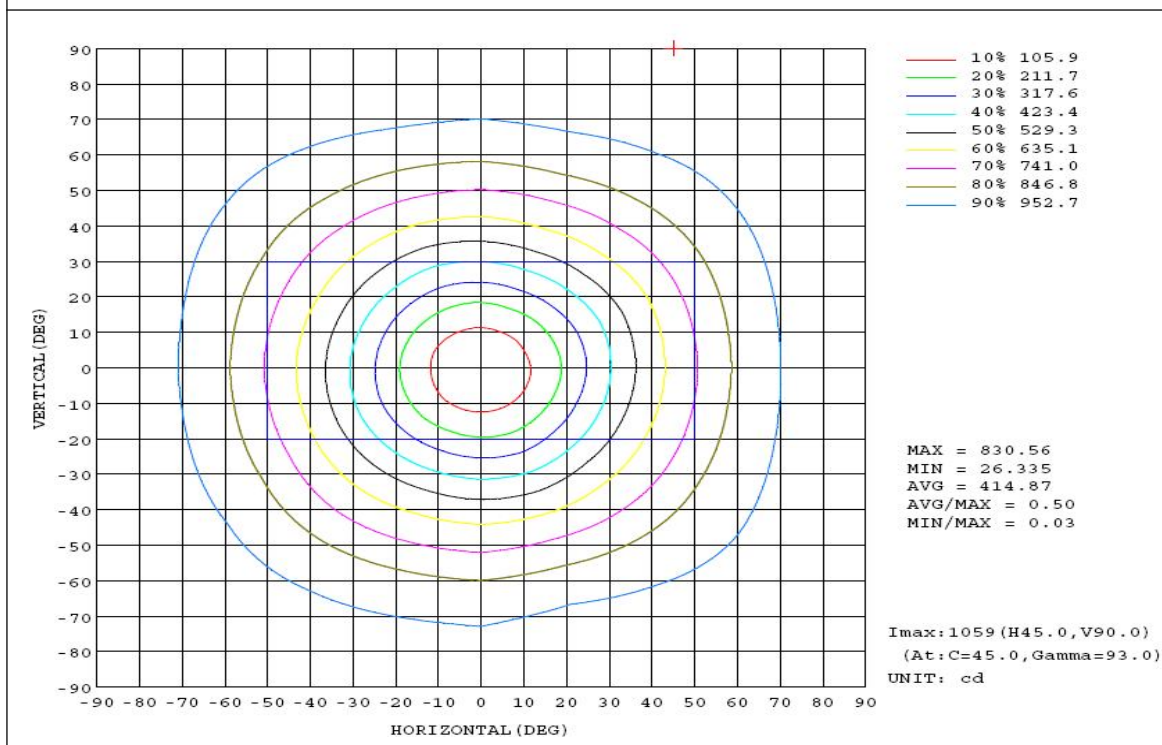
Flux out: 759.1 lm



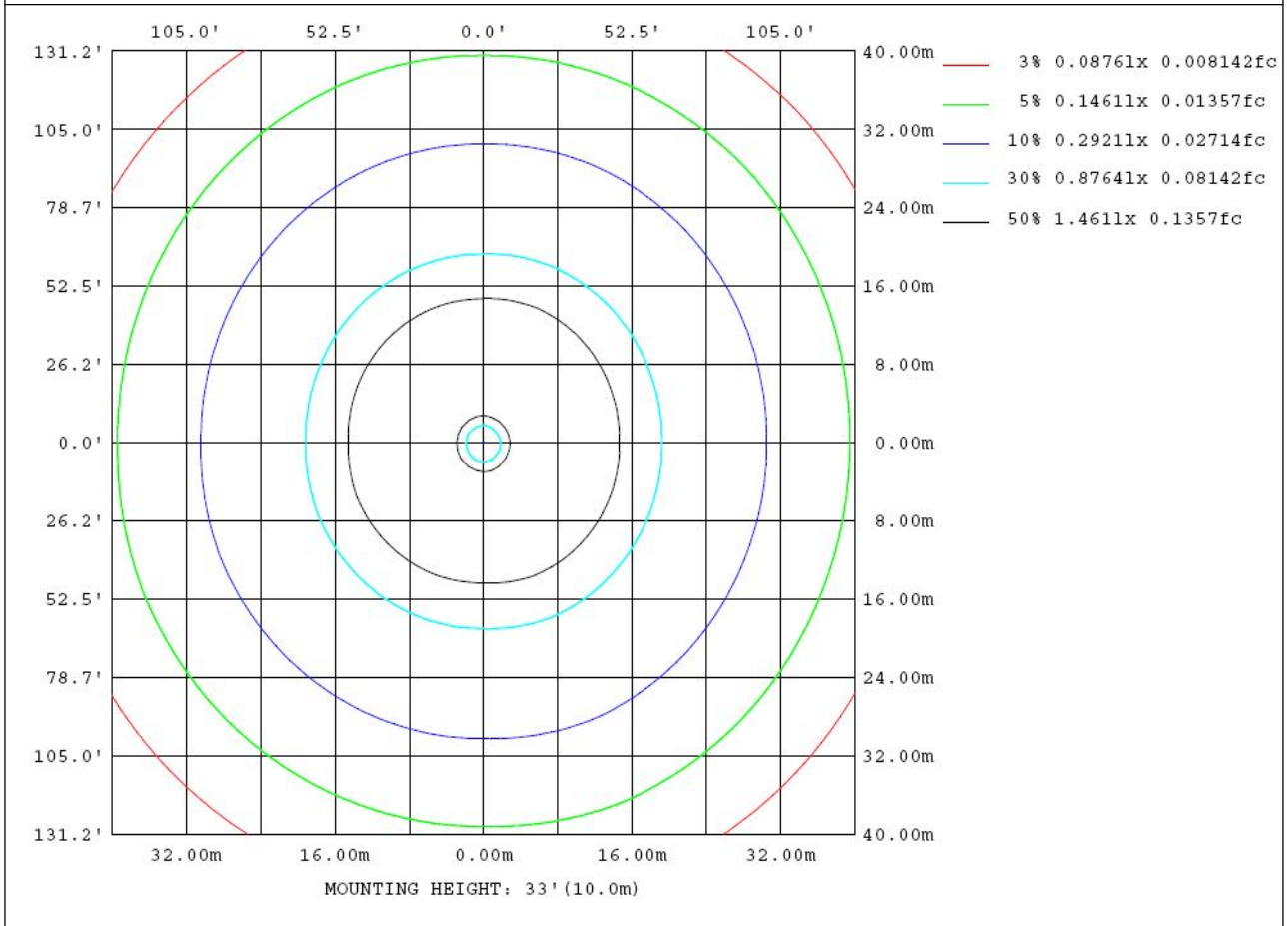
Candela Plots



ISOCANDELA DIAGRAM



ISOLUX DIAGRAM



Candela Tabulation

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338			
0	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5			
5	48.2	46.5	44.9	44.1	42.7	42.2	42.5	44.0	45.8	46.6	47.7	49.0	49.6	49.7	49.2	48.3			
10	87.9	84.9	83.4	79.3	76.5	75.8	76.4	81.7	85.4	85.7	89.0	91.4	90.6	92.7	91.1	90.1			
15	154	153	150	142	138	141	138	142	149	149	155	158	157	162	155	154			
20	234	239	234	220	219	223	218	221	229	237	242	239	239	249	240	232			
25	328	334	330	311	310	316	308	306	324	332	336	331	336	346	333	320			
30	421	425	422	402	398	405	399	394	414	426	431	420	426	436	424	406			
35	514	521	521	499	492	500	491	489	508	521	525	517	520	531	518	498			
40	598	607	608	586	575	583	573	571	592	606	609	600	600	613	597	577			
45	671	678	682	667	648	656	646	649	665	680	685	678	670	682	671	651			
50	740	747	751	741	715	723	715	723	737	750	759	752	740	751	739	723			
55	812	818	822	816	782	790	786	795	809	824	831	821	810	823	807	793			
60	873	878	887	882	849	855	848	853	870	882	888	880	869	882	863	850			
65	922	925	936	933	897	905	896	900	916	928	937	929	917	927	908	897			
70	963	962	975	975	936	940	936	941	957	965	973	969	955	961	946	936			
75	990	994	1008	1005	967	973	971	973	986	992	1001	1000	985	989	980	966			
80	1015	1017	1033	1031	992	995	996	998	1010	1016	1023	1019	1003	1007	1002	983			
85	1031	1031	1051	1046	1006	1009	1015	1016	1024	1028	1038	1032	1019	1019	1020	995			
90	1044	1045	1064	1058	1019	1023	1030	1029	1042	1046	1056	1051	1036	1034	1037	1012			
95	1043	1047	1069	1065	1028	1031	1035	1033	1038	1044	1050	1046	1031	1031	1030	1007			
100	1018	1023	1045	1045	1011	1015	1014	1011	1017	1023	1027	1023	1007	1009	1003	984			
105	986	994	1015	1016	981	986	983	982	984	990	995	989	973	980	965	952			
110	952	962	977	979	943	949	944	946	948	955	958	952	938	944	926	917			
115	905	920	933	931	900	909	898	898	904	914	912	903	889	901	881	870			
120	843	858	873	878	843	852	844	844	844	852	855	841	829	838	820	811			
125	769	788	801	797	773	782	771	773	775	782	782	772	760	770	752	741			
130	702	720	730	729	707	716	705	708	710	714	714	706	693	696	683	678			
135	615	641	648	640	629	638	626	619	630	633	629	614	607	614	601	588			
140	531	550	559	552	543	548	543	535	545	546	542	527	529	530	519	505			
145	437	455	467	456	452	463	451	441	455	455	442	435	440	436	424	412			
150	341	363	372	359	359	372	358	348	364	359	338	347	346	343	324	324			
155	245	262	272	262	262	271	263	257	268	257	247	255	251	240	232	235			
160	156	171	178	174	172	177	172	168	175	166	165	168	159	147	149	153			
165	81.3	85.6	92.5	92.1	91.9	93.8	91.6	94.0	95.9	94.5	87.0	84.1	80.4	74.7	74.6	76.8			
170	25.8	28.3	32.1	32.1	32.5	33.6	32.3	34.7	35.0	35.1	30.1	26.6	25.6	22.5	21.4	22.9			
175	1.41	1.84	2.54	2.85	3.04	3.29	3.04	2.96	1.94	2.31	1.74	1.37	0.94	0.52	0.46	0.51			
180	0.00	0.05	0.06	0.26	0.11	0.06	0.25	0.05	0.05	0.11	0.05	0.16	0.16	0.10	0.10	0.15			

Annex (Photo of Products):



Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2013-07-08	2014-07-07
ST-R-331	Spectral analysis system HAAS-2000	2013-06-21	2014-06-20
D204	Standard Lamp	2013-06-28	2014-06-27
PF2010	Power Meter for Integrating Sphere	2013-06-20	2014-06-19
EE-09	Goniophotometer system	2013-06-21	2014-06-20
D908S	Standard Lamp	2013-07-05	2014-07-04
PF210	Power Meter for Goniophotometer	2013-06-20	2014-06-19
ST-R-181A	Temperature Tester	2013-08-14	2014-08-13

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