Test Datasheet

Test Location:	[ ]	1. B802, No.11 Caipin Road, Guangzhou Science City, Guangzhou, Guangdong, China		
	[√]	2. R108, 1st Floor No.69 GuangPu West Road, Guangzhou Science City, Guangzhou, Guangdong, China		
	[ ]	3. Other:		
Project No.:	GZO130803-01A		Test by:	Mountain Ye
Applicant:	Light Efficient Design, LLC			
Applicant Address	188 S. Northwest Highway, Cary, IL 60013, USA			
Standard/Method	**IES LM-79 2008**			

Test & Report By:

Mountain Ye

Mountain Ye
Date: 2013-09-02

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-8039E42	1309029-1	Y	LED Lamp, 120-277 Vac, 60Hz employed LED of SAMSUNG LED, TYPE 5630

Model name(s):	LED-8039E42, LED-8039E42C	**Representative (Tested) Model:**	LED-8039E42	All construction are the same, except model name

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° C ± 1° 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 25º C ± 1º 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.

1.1 Electrical and Photometric Measurements *(Refer to Work Instruction QD25)*	**IES LM-79 2008**

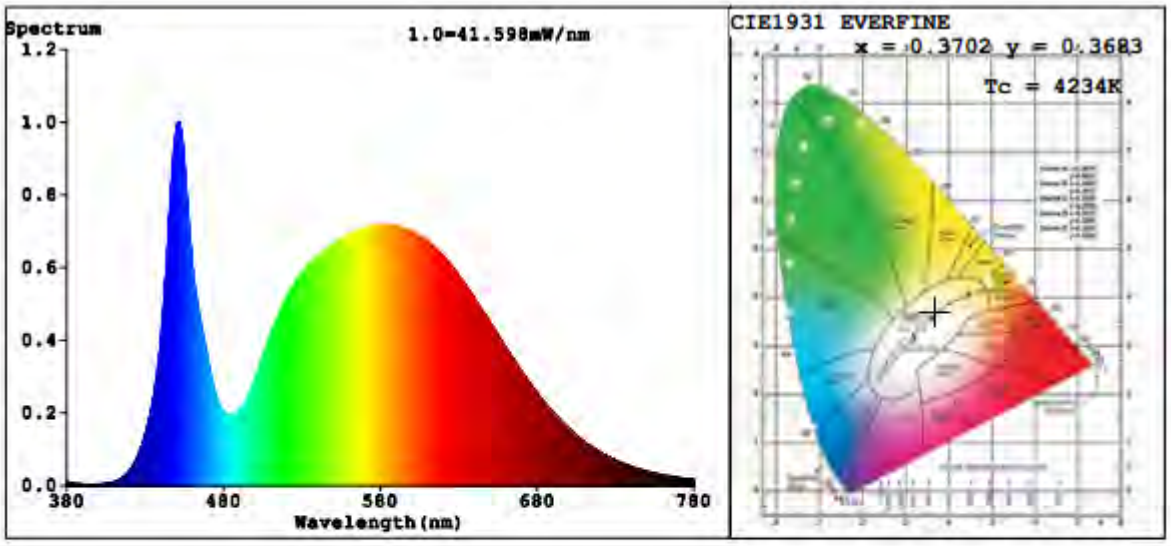
Electrical Measurement

Test date	**2013-09-02**		**Test Ambient:**	**25.2 ° C**		
Sample No.	**Voltage (V AC)**	**Frequency (Hz)**	**Current (A)**	**Power (W)**	**Power Factor**	THD
1309029-1	120.1	60	0.2531	20.80	0.9492	13.9%
	277.1	60	0.0820	21.61	0.9450	16.2%

Photometric and Chromaticity Measurements

Test date	**2013-09-02**		**Test Ambient:**	**25.2 ° C**	
Sample No.	**Voltage (V AC)**		**Frequency (Hz)**		
1309029-1	120.1		60		
Lumen Flux (lm)	Efficacy (lm/w)	CRI	R9	CCT (K)	
1956	92.17	82.6	25	4234	
Chromaticity Coordinate		Duv			
x=0.3702 y=0.3683	u'=0.2217 v'=0.4963	-0.0009			

Color Data:



Color Parameters:

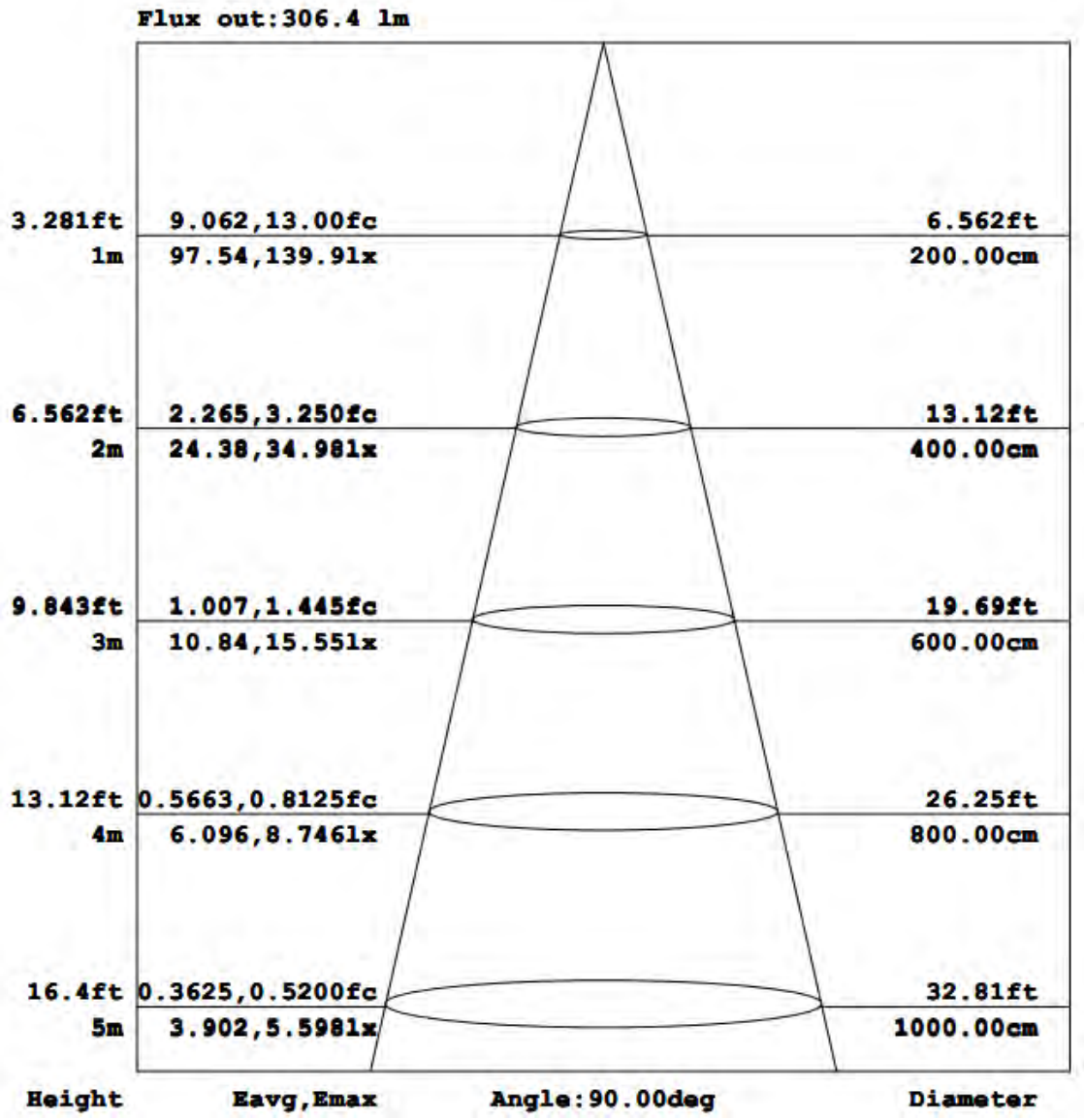
Chromaticity Coordinate:x=0.3702 y=0.3683/u'=0.2217 v'=0.4963
Tc=4234K(Duv=-0.0009) Dominant WL:Ld =578.7nm Purity=21.6%
Peak WL:Lp=451.7nm HWL:Lhd=21.3nm
Render Index:Ra=82.6 CRI=75.8

R1 =82	R2 =87	R3 =89	R4 =82	R5 =80	R6 =80	R7 =89	
R8 =72	R9 =25	R10=67	R11=78	R12=53	R13=83	R14=93	R15=79

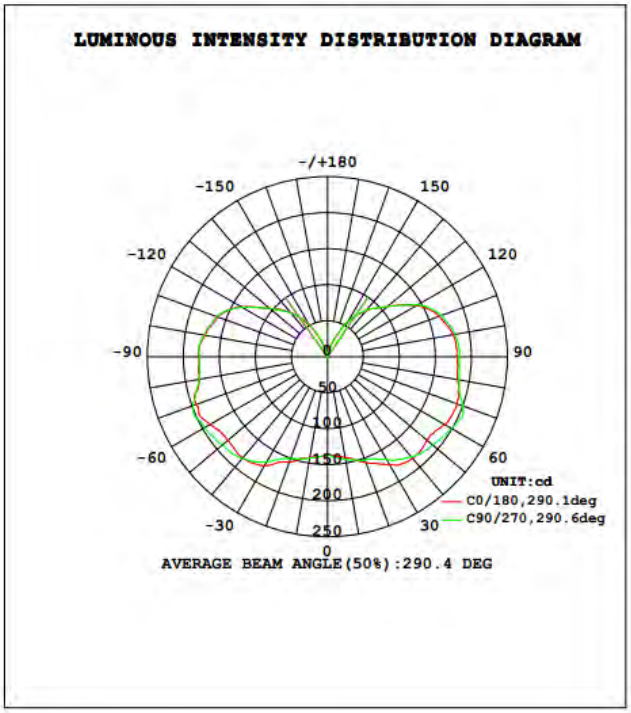
Zonal Lumen Summary

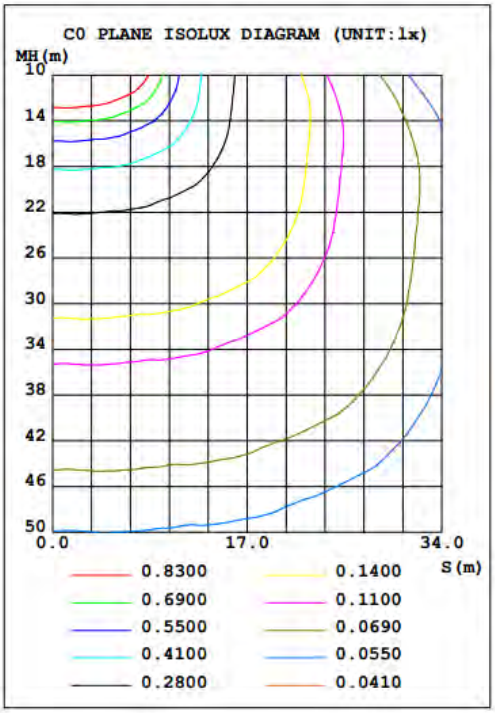
Zone	%Lamp / Luminaire
0 - 60	29.1 %
60 - 90	30.8 %
0 - 90	60.0 %
90 - 180	40.0 %
0 - 180	100 %

Illuminance Plots

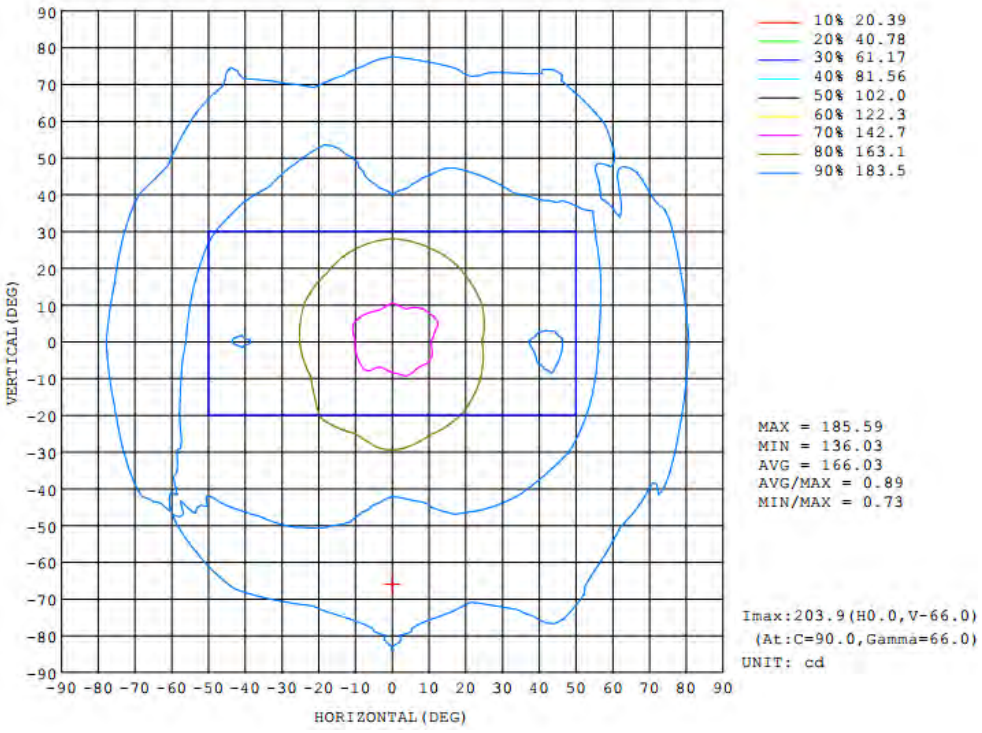


Candela Plots

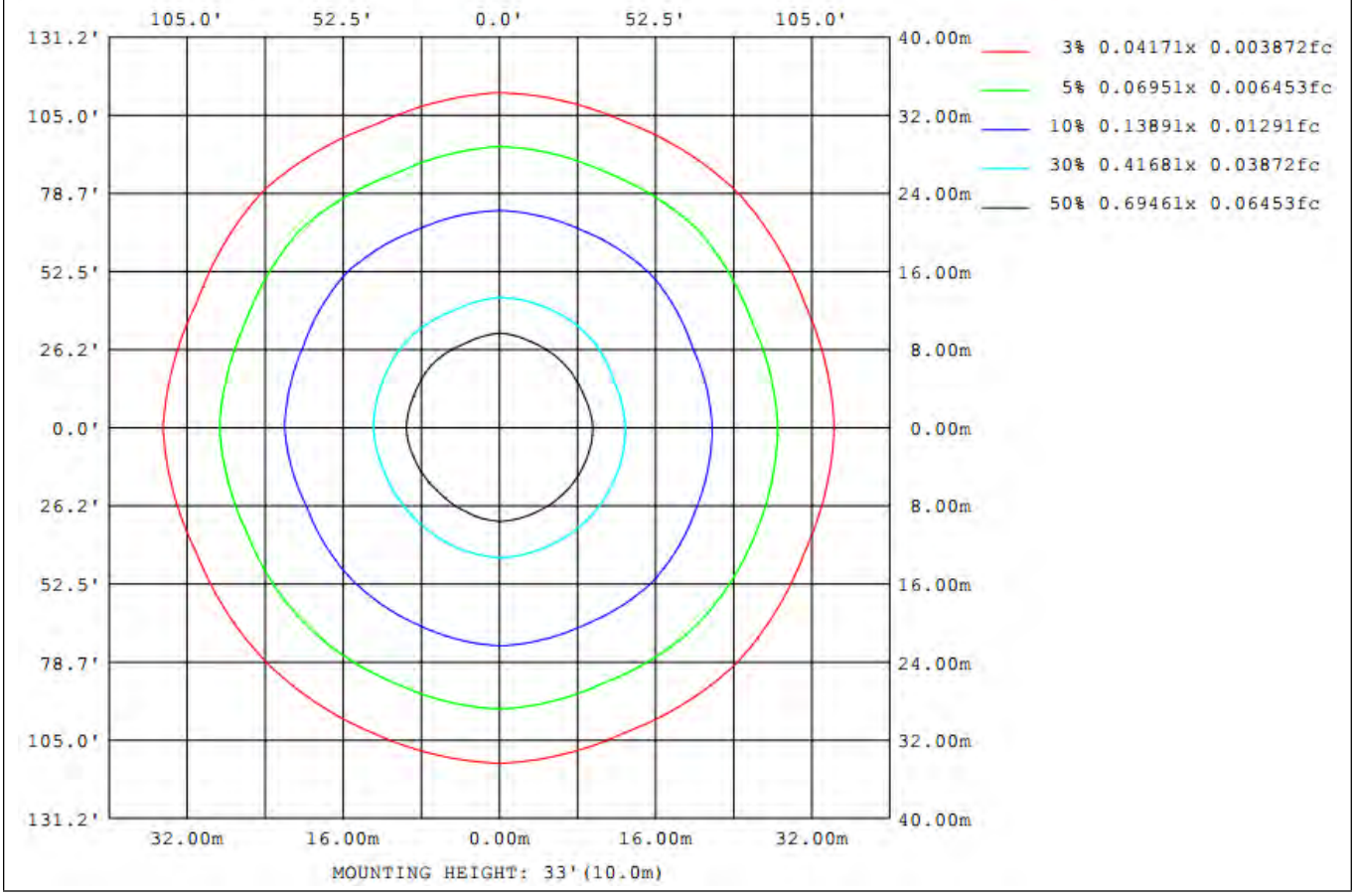




ISOCANDELA DIAGRAM



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	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136			
5	139	139	140	141	141	141	140	141	140	140	140	141	139	140	138	139			
10	142	142	142	143	145	145	141	142	142	141	142	144	143	143	140	141			
15	148	147	147	148	148	149	146	149	147	147	147	148	146	147	146	146			
20	157	155	154	154	153	154	153	157	156	153	154	152	151	153	153	153			
25	163	161	159	159	157	160	158	166	162	161	162	158	157	158	159	160			
30	173	172	169	167	165	165	166	174	175	171	172	168	168	166	168	171			
35	181	177	177	173	174	170	170	178	181	175	179	172	177	171	173	174			
40	184	181	180	179	182	173	170	178	183	177	181	176	184	176	176	176			
45	184	182	180	182	188	177	170	176	182	178	181	178	189	179	178	176			
50	180	181	182	185	191	180	174	174	181	179	182	180	190	184	182	175			
55	182	184	188	190	195	186	179	177	182	184	188	183	194	193	188	179			
60	188	189	197	194	199	191	187	180	188	189	198	191	197	195	194	183			
65	191	191	201	196	203	192	188	182	195	190	203	196	201	194	197	184			
70	191	190	194	188	200	188	188	184	194	187	197	186	199	189	194	184			
75	188	179	188	181	190	181	181	178	188	176	186	177	189	182	186	181			
80	184	177	184	177	185	175	177	176	181	172	182	171	181	173	181	175			
85	182	174	181	174	184	172	175	174	180	168	177	168	178	171	176	171			
90	180	173	180	174	183	171	174	171	178	169	178	168	178	169	176	172			
95	180	172	179	171	182	170	174	171	178	168	177	168	179	171	177	172			
100	177	170	177	170	180	169	170	169	173	164	172	164	174	166	172	168			
105	171	165	172	163	174	163	165	162	168	159	167	159	169	162	167	163			
110	165	159	166	156	168	156	159	155	162	155	161	155	163	157	163	159			
115	156	151	157	149	159	147	150	146	153	146	152	144	153	148	153	149			
120	143	139	142	135	145	133	136	133	139	130	137	130	137	134	140	137			
125	126	122	124	116	125	117	117	117	120	113	118	115	119	116	121	119			
130	108	106	106	100	109	102	101	99.3	104	97.5	103	99.1	105	101	104	104			
135	95.7	92.0	94.2	87.2	95.8	88.9	87.8	88.1	92.7	86.9	90.8	87.9	91.1	89.7	91.1	91.3			
140	83.7	82.1	82.8	77.8	84.9	76.4	77.5	75.4	80.3	74.6	79.7	75.6	79.4	79.0	80.9	79.0			
145	70.0	68.6	69.4	64.7	71.1	63.0	65.6	62.1	66.3	59.3	67.5	61.1	67.6	64.1	70.4	65.5			
150	55.2	55.6	54.2	52.3	54.9	50.3	49.2	48.9	51.0	46.0	52.8	47.6	52.8	50.4	57.6	49.7			
155	38.4	38.6	36.5	34.7	37.2	32.5	31.8	30.6	32.8	29.0	35.5	30.5	35.3	33.0	39.6	34.8			
160	23.5	24.4	22.2	21.8	22.8	20.9	20.6	19.8	19.6	18.3	21.5	18.9	21.2	20.4	23.7	21.8			
165	11.4	13.0	10.3	10.2	10.3	8.48	7.94	8.50	7.61	7.52	8.76	7.90	8.97	9.10	11.4	10.8			
170	3.71	4.39	3.05	2.96	2.79	2.18	2.15	2.16	1.87	2.06	1.60	1.41	1.51	2.50	2.73	2.97			
175	0.84	0.84	0.73	0.63	0.63	0.74	0.62	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.31			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

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

******** END OF DATASHEET PACKAGE ********