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.:	GZO130803-01B		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-8039E57	1309029-2	Y	LED Lamp, 120-277 Vac, 60Hz employed LED of SAMSUNG LED, TYPE 5630

Model name(s):	LED-8039E57, LED-8039E57C	**Representative (Tested) Model:**	LED-8039E57	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**

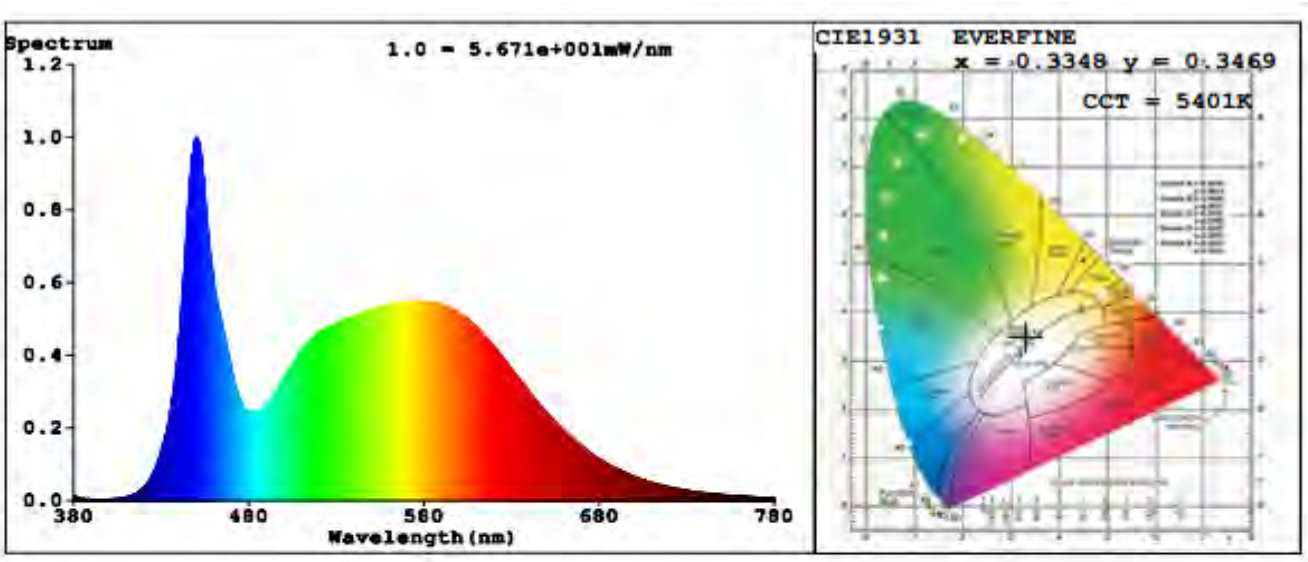
Electrical Measurement

Test date	**2013-09-02**		**Test Ambient:**	**25.2 ° C**		
Sample No.	**Voltage (V AC)**	**Frequency (Hz)**	**Current (A)**	**Power (W)**	**Power Factor**	THD
1309029-2	120.1	60	0.2699	21.4	0.9432	12.07%
	277.1	60	0.0810	21.6	0.9590	16.06%

Photometric and Chromaticity Measurements

Test date	**2013-09-02**		**Test Ambient:**	**25.2 ° C**	
Sample No.	**Voltage (V AC)**		**Frequency (Hz)**		
1309029-2	120.1		60		
Lumen Flux (lm)	Efficacy (lm/w)	CRI	R9	CCT (K)	
2008	91.93	82.8	7	5401	
Chromaticity Coordinate		Duv			
x=0.3348 y=0.3469	u'=0.2063 v'=0.4808	0.0019			

Color Data:



Colorimetric Quantities

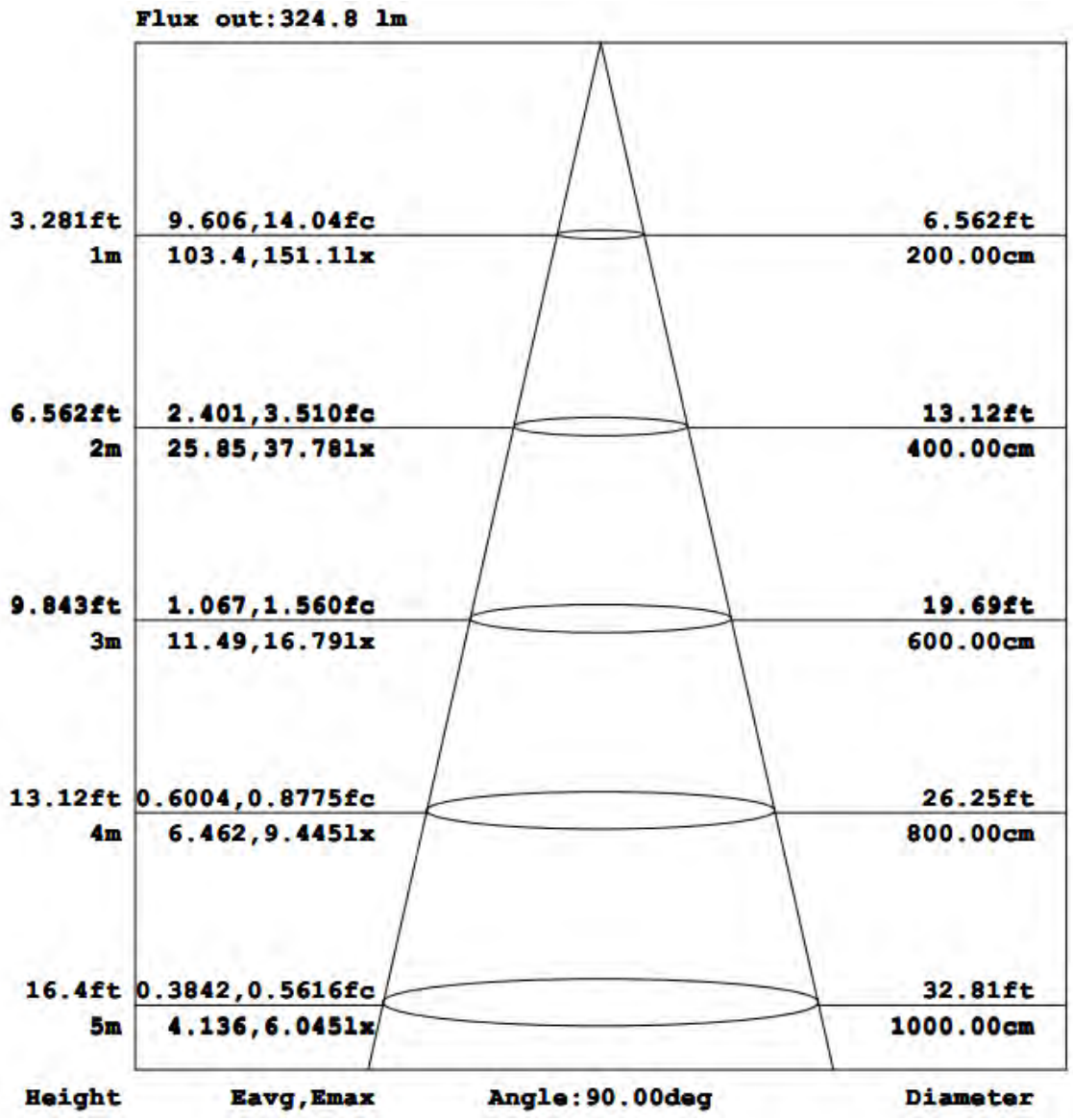
Chromaticity Coordinate:x=0.3348 y=0.3469/u'=0.2063 v'=0.4808
CCT=5401K(Duv=0.0019) Dominant WL:Ld =559.0nm Purity=4.5%
Peak WL:Lp=450.0nm FWHM=22.5nm
Render Index:Ra=82.8

R1 =81	R2 =88	R3 =92	R4 =83	R5 =82	R6 =83	R7 =87	
R8 =68	R9 =7	R10=70	R11=81	R12=60	R13=83	R14=96	R15=76

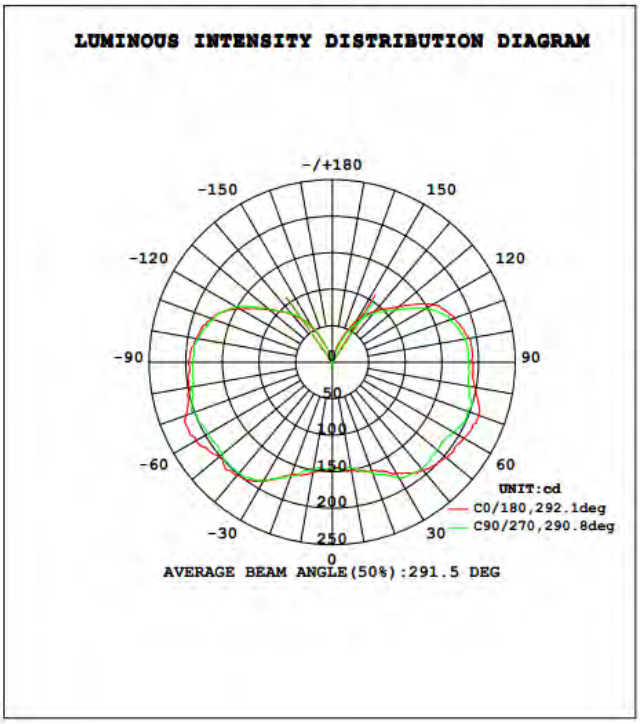
Zonal Lumen Summary

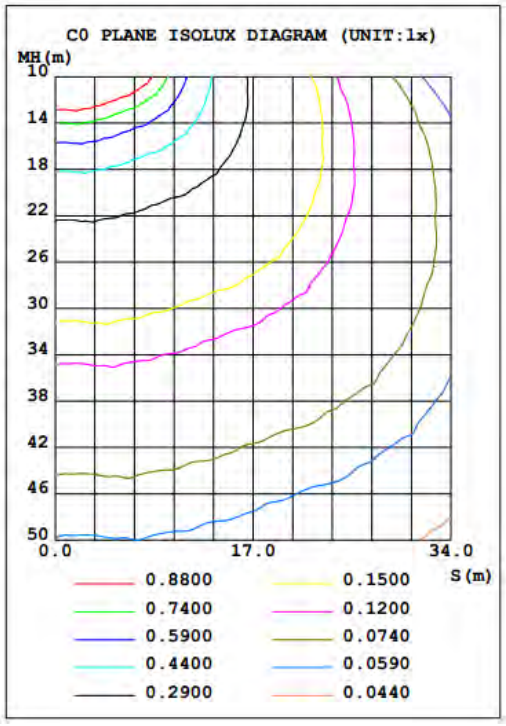
Zone	%Lamp / Luminaire
0 - 60	29.6 %
60 - 90	30.6 %
0 - 90	60.2 %
90 - 180	39.8 %
0 - 180	100.0 %

Illuminance Plots

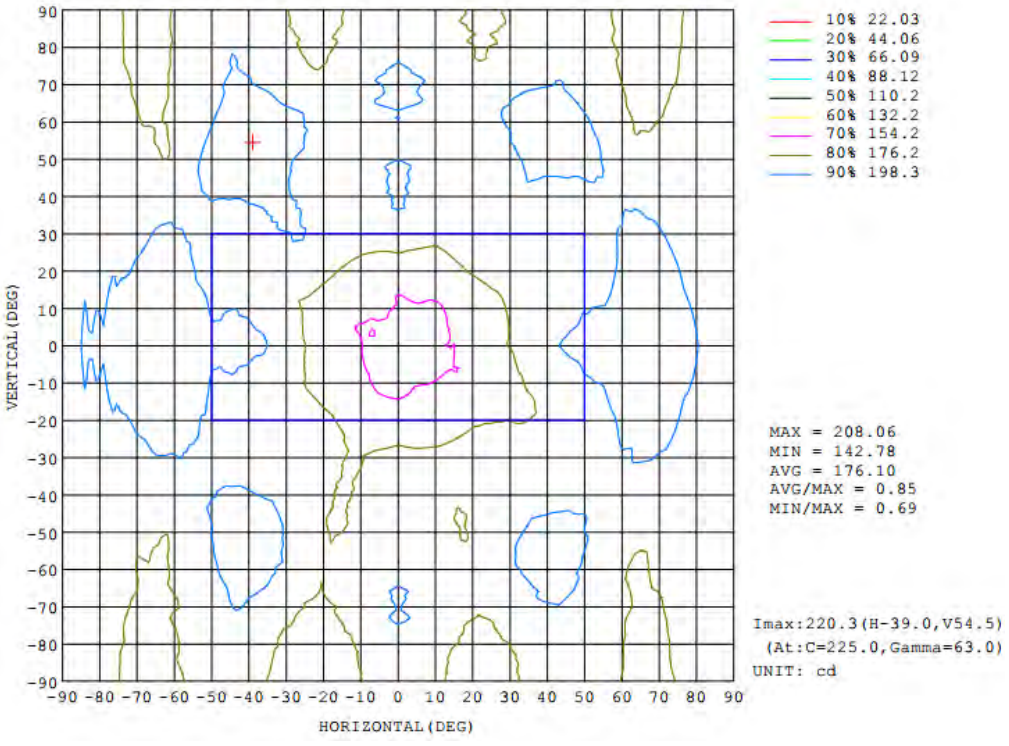


Candela Plots

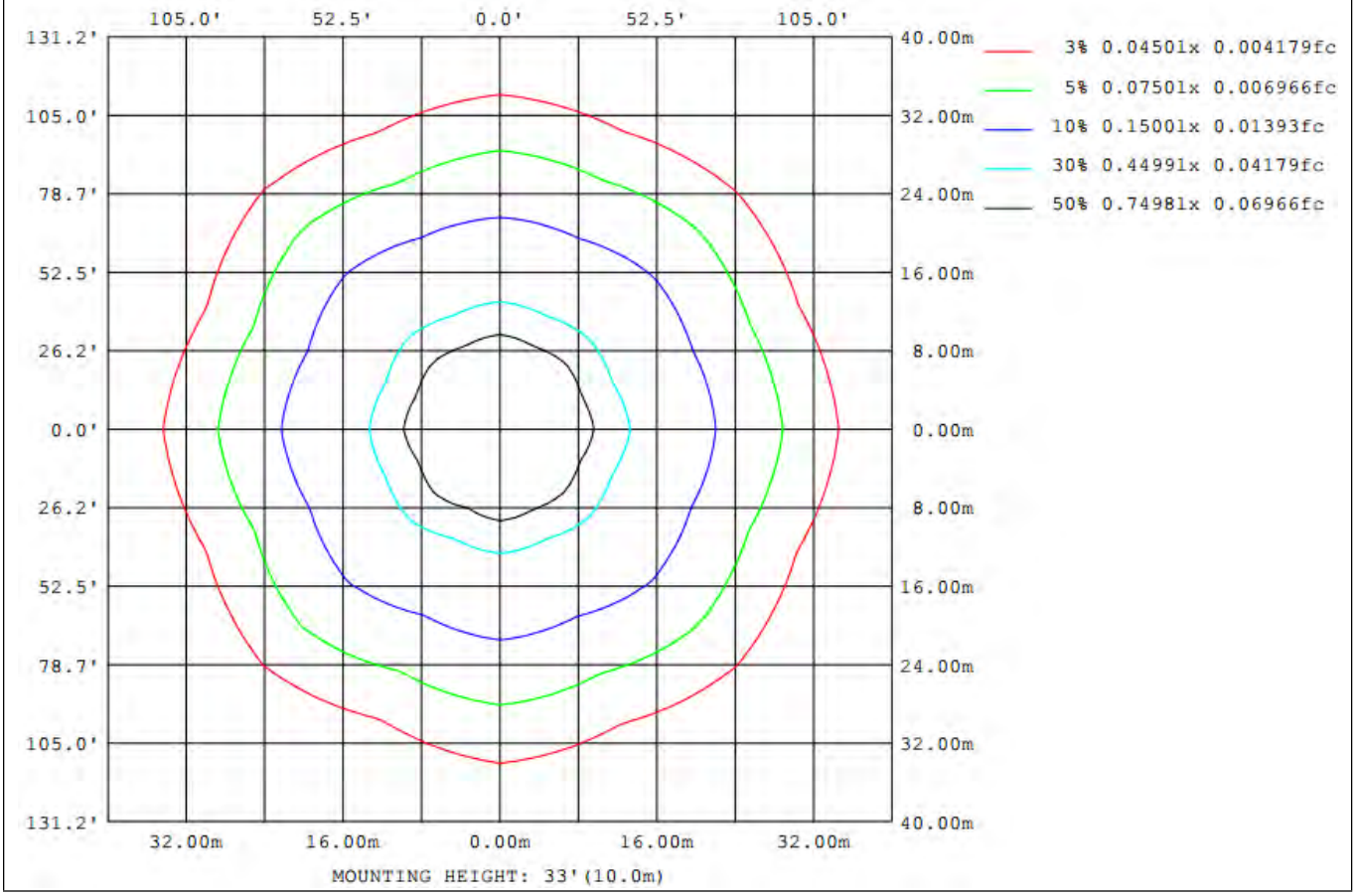




ISOCANDELA DIAGRAM



ISOLUX DIAGRAM



Candela Tabulation

Table--1 UNIT: cd

γ (DEG) \ C (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338			
0	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146			
5	147	145	147	147	147	150	151	151	150	152	152	152	147	148	148	146			
10	150	149	151	151	147	150	155	153	154	154	154	158	151	149	152	149			
15	153	155	157	157	154	155	162	157	160	157	159	162	154	156	154	154			
20	159	157	164	165	162	156	168	161	164	161	165	165	165	162	164	159			
25	165	159	169	168	169	163	177	172	176	170	176	173	175	170	173	165			
30	176	166	177	179	183	172	186	178	189	179	189	182	187	178	185	174			
35	185	172	186	182	187	172	191	179	197	186	196	187	194	183	194	180			
40	193	176	187	181	190	172	195	180	202	189	200	187	198	186	199	182			
45	199	180	188	179	190	173	196	179	207	188	201	187	199	186	198	181			
50	204	181	192	177	187	173	198	185	201	187	203	186	196	184	198	183			
55	204	184	196	178	186	175	209	190	208	190	207	189	195	183	201	183			
60	208	189	209	182	192	176	213	191	215	194	217	192	196	186	209	187			
65	211	191	210	182	197	175	213	187	217	193	220	192	200	189	215	193			
70	213	187	207	178	197	172	210	178	212	183	212	183	201	186	213	190			
75	206	179	199	174	195	166	203	174	204	175	204	177	198	177	202	178			
80	198	175	193	172	190	162	195	168	199	172	200	172	193	174	194	170			
85	193	172	189	169	187	161	192	167	197	170	197	171	191	172	192	165			
90	191	171	189	168	186	159	191	165	197	169	196	169	190	171	191	165			
95	192	171	189	168	186	158	191	165	194	166	196	166	189	169	192	166			
100	190	168	185	166	184	155	187	163	189	162	192	162	187	166	189	162			
105	183	163	179	159	179	149	181	155	184	154	184	157	180	159	182	157			
110	177	154	173	150	171	142	173	147	176	147	175	149	173	150	176	149			
115	170	147	164	146	162	134	161	138	163	138	166	141	165	142	166	142			
120	158	136	150	136	147	120	143	126	147	126	150	130	151	131	154	133			
125	138	121	134	119	129	104	124	109	129	108	132	114	133	115	137	117			
130	118	103	115	103	112	90.8	108	95.9	113	92.0	114	97.2	114	97.2	118	100			
135	104	90.5	100	91.8	99.7	79.4	97.5	84.4	98.9	81.8	99.0	85.2	99.5	84.9	103	88.8			
140	92.3	79.7	88.8	81.2	87.6	68.7	84.7	73.5	85.4	71.7	86.6	75.2	87.6	75.6	90.9	77.4			
145	79.7	68.4	76.1	67.7	74.7	56.8	71.7	62.8	71.8	60.6	73.4	63.8	73.3	64.4	76.8	67.7			
150	64.0	55.2	60.8	56.9	57.5	45.0	54.1	50.2	54.1	48.9	55.0	51.3	56.4	53.5	61.7	56.6			
155	47.9	42.0	43.0	41.6	39.5	28.4	34.4	31.4	34.2	31.5	33.2	35.4	38.4	38.9	43.4	42.0			
160	28.4	24.6	24.8	24.1	22.9	17.0	20.0	19.2	18.6	18.4	18.8	22.0	21.6	23.7	24.1	25.7			
165	15.1	14.3	12.5	12.5	9.97	7.39	7.95	8.67	6.98	6.71	7.70	9.12	10.3	11.8	12.7	13.3			
170	5.27	5.41	4.16	4.03	3.00	2.49	2.16	1.98	1.45	1.45	1.71	2.09	2.24	3.76	4.47	3.93			
175	1.61	1.61	1.42	1.21	0.93	0.68	0.63	0.16	0.00	0.00	0.00	0.00	0.25	0.05	0.77	1.18			
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

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