

ELECTRICAL LABORATORY- TEST REPORT Electrical And Photometric Measurements of Solid State Lighting (LED) Products
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Test Report N°.....	ITC/TEST/1608/03
Date of issue.....	29-09-2016
Sample date in.....	29-08-2016
Date of performance.....	30-08-2016 to 16-09-2016
Applicant.....	*****
Customer	*****
Sample description.....	FLP LED WELL GLASS 30W
Sample Condition.....	OK
Customer reference.....	N/A
Trade mark / Manufacturer..	N/A
Model / Type / Reference....	FLP LED WELL GLASS 30W
Ratings.....	30W,90-295VAC
Test method(s).....	Following 3 Parameters have been Checked as per IES LM 79-08: 1.Colorimetric Parameters - (CCT, Chromaticity Coordinates, CRI) 2.Photometric Parameters - (Luminous flux, luminous Efficacy) p3.Electrical Parameters - (Voltage, Current, Wattage)

REMARKS: This report is governed by, and incorporates by reference, the Condition of testing as posted at its date of issuance and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. **This report sets forth solely our findings with respect to the test samples identified herein.** It includes all of the test requested by you and the results thereof based upon the information that you provided us with. You have 10 calendar days from the date of issuance of this report to notify us of any material error or omission; provided, however, that such notice shall be written and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Tests are destructive and non reversible, the submitted samples will not return to their original conditions. The client acknowledges that any remaining part of the sample will be discarded if not retrieved in a period of 30 calendar days from the date of issuance of this report.

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Possible test case verdicts:

- Test case does not apply to the test object..... N/A
- Test object meets the requirement..... P (Pass)
- Test object does not meet the requirement..... F (Fail)

General remarks:

- “ See enclosure ## ” refers to additional information related to this report in the annexes section
- “ See table ## ” refers to a table appended to this report in the annexes section
- “ See figure ## ” refers to an image, picture or drawing appended to this report in the annexes section
- Throughout this report, a comma is used as decimal separator

General product information:

FLP LED WELL GLASS 30W

Pictures of Specimen received:



Testing Engineer
Nitin Kumar

Testing supervisor
Dharminder Chauhan

Photometric Results using Integrating Sphere

CIE Colorimetric Parameters	
Chromaticity coordinates (x)	0.3159
Chromaticity coordinates (y)	0.3376
Chromaticity coordinates (u')	0.1968
Chromaticity coordinates (v)	0.3156
Chromaticity coordinates (v')	0.4733
Correlated color temperature (T _c)	6286 K
D _{uv} Value	0.00600
Color Rendering Index (R _a)	80.6
Photometric Parameters	
Luminous Flux (Lumen)	2227.438 lm
Luminous Efficacy(lm/W)	87.87 lm/W
Radiant Power	5.133 W
Electric Parameters	
Voltage (V)	239.87
Current (A)	0.11300 A
Power (W)	25.7 W
Power Factor	0.9517
Frequency	50Hz
Test Information	
Ambient Temperature	25°C±1
Stabilization Time	65 minute
Total Operating Time	60 minute
Sphere Diameter (m)	2m
Photometric method or instrument used	Sphere-Spectroradiometer (Lisun group)
Wavelength range in (nm) of spectroradiometer	380nm to 780nm



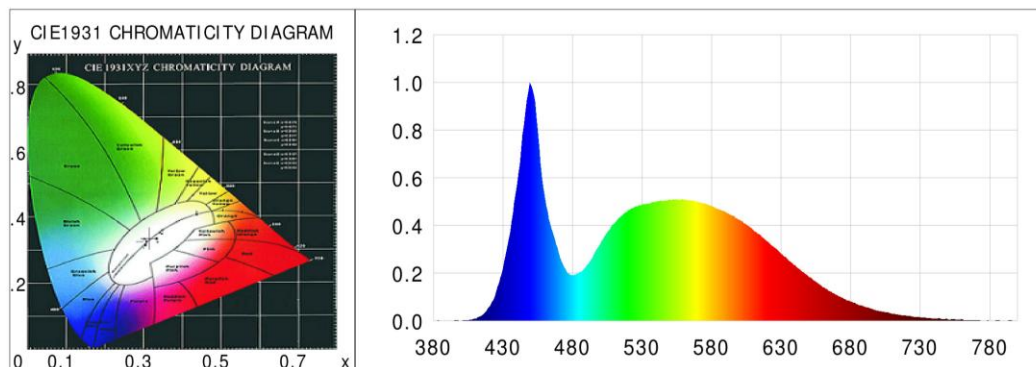
Spectrum Test Report

Product Information

Product Type: FLP well glass 30W

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.3159$ $y=0.3376$ $u(u')=0.1968$ $v=0.3156$ $v'=0.4733$
 CCT: $T_c=6286K$ ($duv=0.00600$) Color Ratio: $R=0.130$ $G=0.822$ $B=0.048$
 Peak Wavelength: 449nm Half Bandwidth: 22.4nm
 Dominant Wavelength: 495.9nm Color Purity: 0.056
 CRI: R_i : $R_a=80.6$
 $R_1=80$ $R_2=80$ $R_3=79$ $R_4=87$ $R_5=81$ $R_6=73$ $R_7=89$ $R_8=76$
 $R_9=10$ $R_{10}=51$ $R_{11}=86$ $R_{12}=48$ $R_{13}=79$ $R_{14}=88$ $R_{15}=77$



Photometric Parameters

Luminous Flux: 2227.438 lm Efficiency: 87.87 lm/W

Electric Parameters

Voltage: 239.87V Current: 0.11300A Power: 25.7W
 Power Factor: 0.9517 Frequency: 50.00Hz

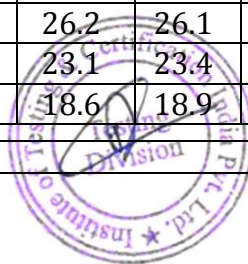
Test Information

Scan Range: 380nm~800nm:1nm Photometric Method:
 Stabilization Time: 60 Min Photometric Condition: Sphere diameter: 2.00m, 4 \bar{a}
 Max of Signal: 52446 (4450) CCD Integration Time: 251.98 ms



G/C [cd]	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00
0.00	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9
5.00	254.6	254.7	246.8	259.0	249.0	251.5	249.7	254.5	248.1	250.9
10.00	285.5	280.7	274.5	269.1	269.7	278.2	284.4	290.5	280.4	278.1
15.00	231.2	231.3	213.5	209.5	215.3	246.4	261.9	274.5	241.1	205.3
20.00	318.1	348.4	337.4	339.9	289.2	305.2	317.8	356.4	297.6	235.7
25.00	314.4	364.1	357.7	348.4	295.7	309.1	323.5	352.0	297.8	256.0
30.00	257.4	313.3	309.6	302.3	268.9	281.9	297.6	323.2	279.6	263.8
35.00	84.8	112.8	125.9	138.9	139.4	155.2	176.0	199.5	182.5	194.3
40.00	149.0	172.0	170.8	165.1	155.8	151.1	154.6	163.9	136.5	156.5
45.00	188.1	213.5	216.0	211.6	196.2	187.5	195.3	213.3	175.6	209.6
50.00	262.3	294.4	308.7	307.8	277.3	289.1	317.2	345.1	263.7	317.3
55.00	310.7	309.5	339.4	311.1	289.5	280.0	297.9	312.1	258.2	311.4
60.00	107.7	107.0	116.1	110.8	109.7	111.3	121.7	129.7	110.7	126.3
65.00	163.3	158.8	162.0	164.5	156.6	153.4	158.6	170.4	132.3	162.3
70.00	133.5	120.1	130.8	125.0	130.0	132.1	140.2	149.8	127.6	148.2
75.00	73.5	64.7	76.5	67.8	70.5	65.4	69.2	68.7	58.8	67.4
80.00	26.9	25.8	27.1	26.1	26.2	26.4	27.7	28.4	25.7	29.1
85.00	23.2	22.5	23.4	23.4	23.1	22.9	23.5	24.3	22.1	24.8
90.00	19.3	18.7	18.7	18.9	18.6	18.9	20.1	20.8	18.7	20.7

G/C [cd]	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00
0	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9
5	248.1	254.5	249.7	251.5	249.0	259.0	246.8	254.7	254.6	254.7
10	280.4	290.5	284.4	278.2	269.7	269.1	274.5	280.7	285.5	280.7
15	241.1	274.5	261.9	246.4	215.3	209.5	213.5	231.3	231.2	231.3
20	297.6	356.4	317.8	305.2	289.2	339.9	337.4	348.4	318.1	348.4
25	297.8	352.0	323.5	309.1	295.7	348.4	357.7	364.1	314.4	364.1
30	279.6	323.2	297.6	281.9	268.9	302.3	309.6	313.3	257.4	313.3
35	182.5	199.5	176.0	155.2	139.4	138.9	125.9	112.8	84.8	112.8
40	136.5	163.9	154.6	151.1	155.8	165.1	170.8	172.0	149.0	172.0
45	175.6	213.3	195.3	187.5	196.2	211.6	216.0	213.5	188.1	213.5
50	263.7	345.1	317.2	289.1	277.3	307.8	308.7	294.4	262.3	294.4
55	258.2	312.1	297.9	280.0	289.5	311.1	339.4	309.5	310.7	309.5
60	110.7	129.7	121.7	111.3	109.7	110.8	116.1	107.0	107.7	107.0
65	132.3	170.4	158.6	153.4	156.6	164.5	162.0	158.8	163.3	158.8
70	127.6	149.8	140.2	132.1	130.0	125.0	130.8	120.1	133.5	120.1
75	58.8	68.7	69.2	65.4	70.5	67.8	76.5	64.7	73.5	64.7
80	25.7	28.4	27.7	26.4	26.2	26.1	27.1	25.8	26.9	25.8
85	22.1	24.3	23.5	22.9	23.1	23.4	23.4	22.5	23.2	22.5
90	18.7	20.8	20.1	18.9	18.6	18.9	18.7	18.7	19.3	18.7

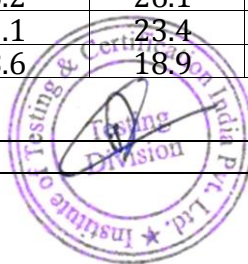




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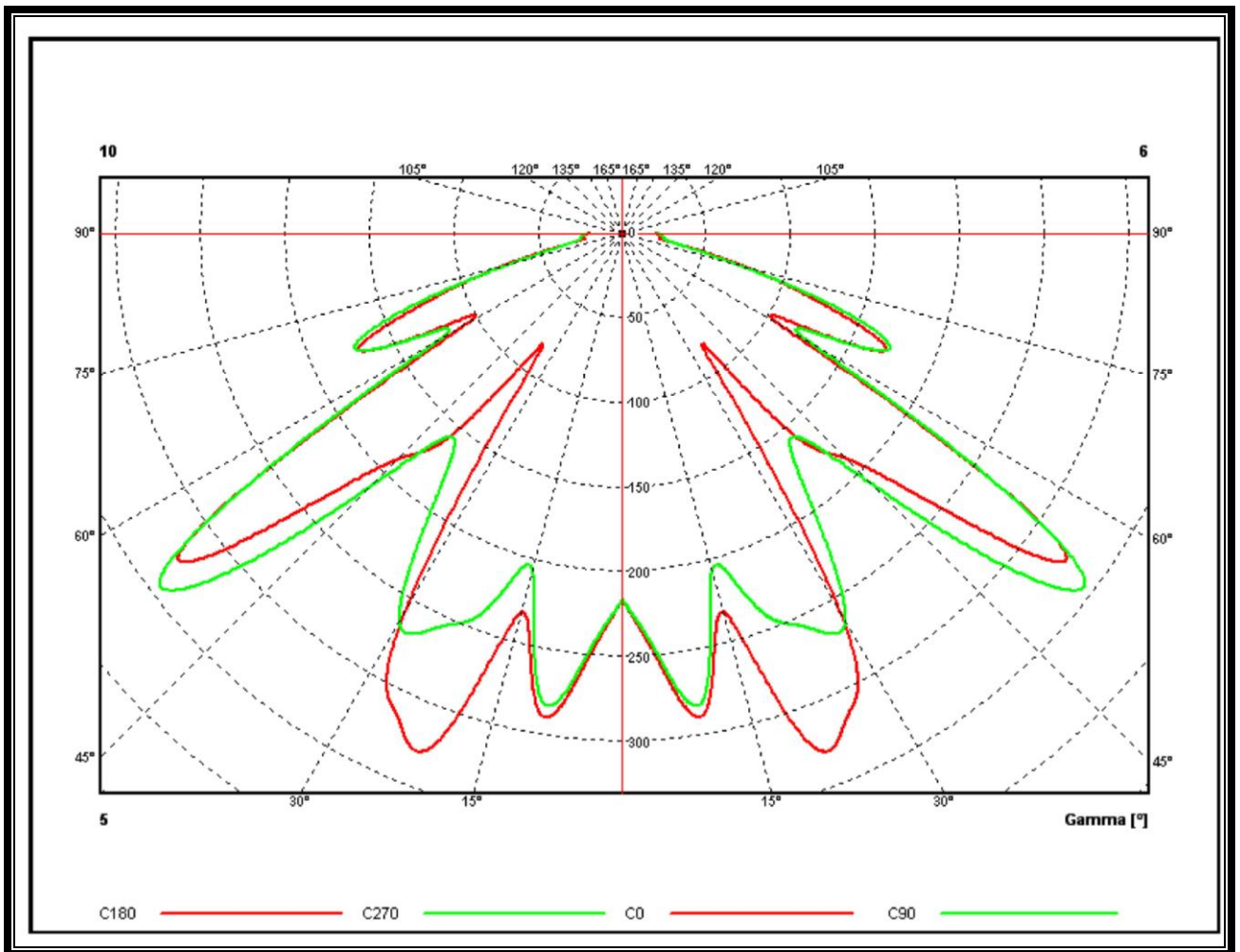
G/C [cd]	200.00	210.00	220.00	230.00	240.00	250.0	260.0	270.0	280.0	290.00
0	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9
5	246.8	259.0	249.0	251.5	249.7	254.5	248.1	250.9	248.1	254.5
10	274.5	269.1	269.7	278.2	284.4	290.5	280.4	278.1	280.4	290.5
15	213.5	209.5	215.3	246.4	261.9	274.5	241.1	205.3	241.1	274.5
20	337.4	339.9	289.2	305.2	317.8	356.4	297.6	235.7	297.6	356.4
25	357.7	348.4	295.7	309.1	323.5	352.0	297.8	256.0	297.8	352.0
30	309.6	302.3	268.9	281.9	297.6	323.2	279.6	263.8	279.6	323.2
35	125.9	138.9	139.4	155.2	176.0	199.5	182.5	194.3	182.5	199.5
40	170.8	165.1	155.8	151.1	154.6	163.9	136.5	156.5	136.5	163.9
45	216.0	211.6	196.2	187.5	195.3	213.3	175.6	209.6	175.6	213.3
50	308.7	307.8	277.3	289.1	317.2	345.1	263.7	317.3	263.7	345.1
55	339.4	311.1	289.5	280.0	297.9	312.1	258.2	311.4	258.2	312.1
60	116.1	110.8	109.7	111.3	121.7	129.7	110.7	126.3	110.7	129.7
65	162.0	164.5	156.6	153.4	158.6	170.4	132.3	162.3	132.3	170.4
70	130.8	125.0	130.0	132.1	140.2	149.8	127.6	148.2	127.6	149.8
75	76.5	67.8	70.5	65.4	69.2	68.7	58.8	67.4	58.8	68.7
80	27.1	26.1	26.2	26.4	27.7	28.4	25.7	29.1	25.7	28.4
85	23.4	23.4	23.1	22.9	23.5	24.3	22.1	24.8	22.1	24.3
90	18.7	18.9	18.6	18.9	20.1	20.8	18.7	20.7	18.7	20.8

G/C [cd]	300.00	310.00	320.00	330.00	340.00	350.00	355.00
0	215.9	215.9	215.9	215.9	215.9	215.9	215.9
5	249.7	251.5	249.0	259.0	246.8	254.7	248.5
10	284.4	278.2	269.7	269.1	274.5	280.7	221.3
15	261.9	246.4	215.3	209.5	213.5	231.3	310.1
20	317.8	305.2	289.2	339.9	337.4	348.4	424.6
25	323.5	309.1	295.7	348.4	357.7	364.1	411.6
30	297.6	281.9	268.9	302.3	309.6	313.3	299.9
35	176.0	155.2	139.4	138.9	125.9	112.8	86.5
40	154.6	151.1	155.8	165.1	170.8	172.0	183.8
45	195.3	187.5	196.2	211.6	216.0	213.5	231.0
50	317.2	289.1	277.3	307.8	308.7	294.4	263.3
55	297.9	280.0	289.5	311.1	339.4	309.5	282.2
60	121.7	111.3	109.7	110.8	116.1	107.0	157.5
65	158.6	153.4	156.6	164.5	162.0	158.8	173.0
70	140.2	132.1	130.0	125.0	130.8	120.1	132.8
75	69.2	65.4	70.5	67.8	76.5	64.7	84.6
80	27.7	26.4	26.2	26.1	27.1	25.8	25.4
85	23.5	22.9	23.1	23.4	23.4	22.5	23.9
90	20.1	18.9	18.6	18.9	18.7	18.7	19.1

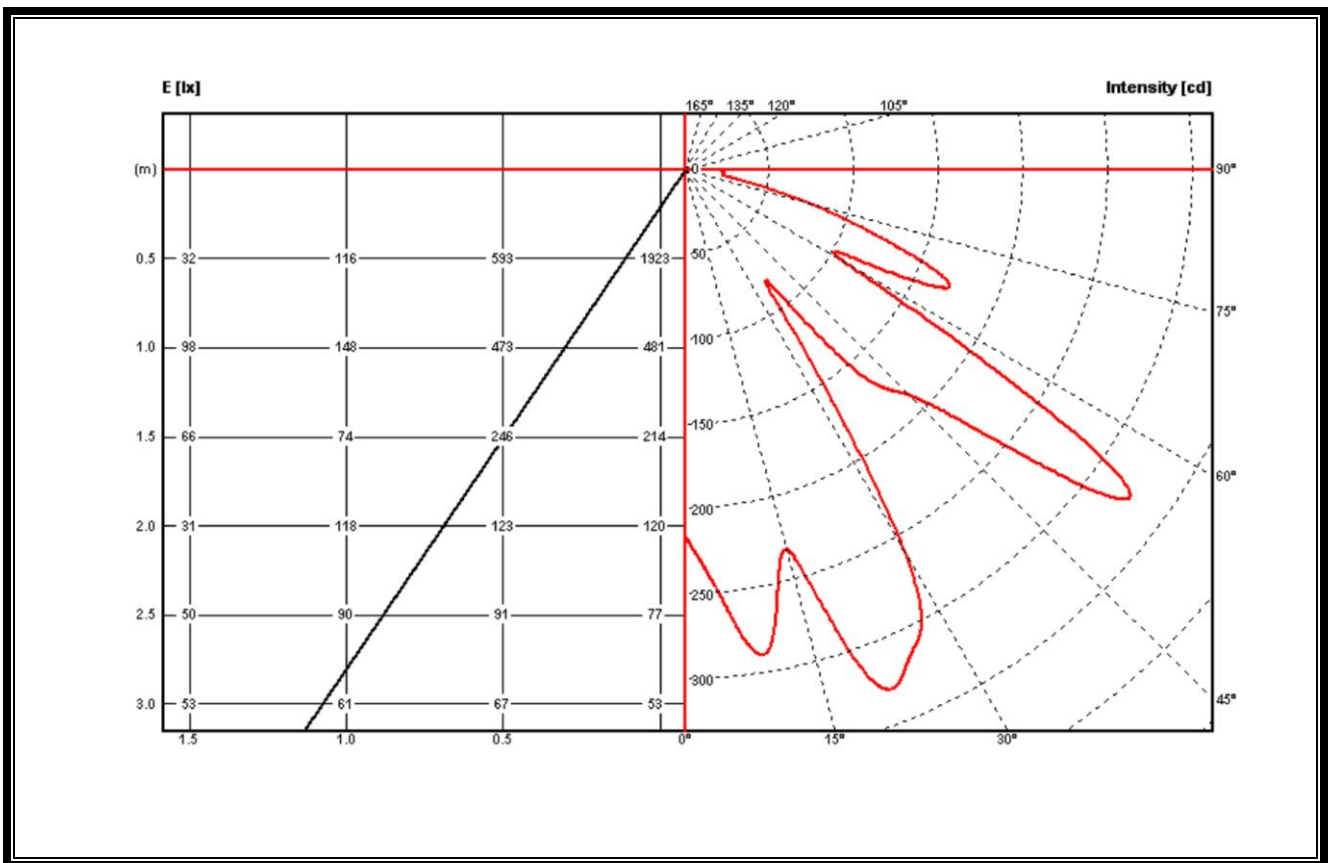


Polar diagram FLP LED WELL GLASS 30W/ C-Plane measurement

Intensity [cd/1000lm]



Illuminance and Intensity diagram FLP LED WELL GLASS 30W / C-Plane measurement



Isocandela Diagram Apex LED Street Light 120 W / C-Plane measurement

