

## 光学检测报告

报告编号.....: OPSZ201807092-G01

主检

(印刷体姓名 + 签名).....: 朱明祥

审批

(印刷体姓名 + 签名).....: 赵俊

签发日期.....: 2018-07-20

总页数.....: 34页



检测实验室.....: 苏州欧普照明有限公司实验室

地址.....: 江苏省苏州市吴江区吴江市汾湖经济开发区汾杨路东侧

申请人名称.....: 苏州欧普照明有限公司

地址.....: 江苏省苏州市吴江区吴江市汾湖经济开发区汾杨路东侧

### 检测规范:

标准.....: ☒ GB/T 9468-2008 ☐ 依据客户委托要求  
☒ IES-LM-79-08

检验结果.....: 数据见检测结果汇总

### 可能的检测结论:

- 被试品符合测试要求: .....: P (符合 Pass)  
- 被试品不符合测试要求.....: F (不符合 Fail)  
- 测试条款不适用于被试品.....: N/A (不适合 Not applicable)  
- 被试品未被检测.....: N/T (未被检测 Not tested)

### 一般说明:

本报告所提及的检测结果仅对被测样品负责。  
本报告中样品信息来源于客户,实验室不负责其真实性。  
未经签发实验室书面同意,不得复制本报告的任何部分。  
测试结果已经包括了测试设备和测试方法方面的不确定度考虑。

样品名称	嵌入式灯具	规格型号	见样品说明
项目名称	18 年商用佳系列筒射	研发项目编号	/
委托部门	事业部管理室	制造商	苏州欧普照明有限公司
委托人/联系人	胡振荣	联系电话	18016433278
产品商标	/	样品数量	3 只
送样日期	2018-07-13	检测类别	委托测试
验讫日期	2018-07-19	环境温度	25±1℃

**使用设备**

<input type="checkbox"/> YF1000 光色电综合分析系统	编号SH011110002	有效期 2019-3-13
<input checked="" type="checkbox"/> YF1000 光色电综合分析系统	编号SH011110004	有效期 2018-7-31
<input type="checkbox"/> YF1000 光色电综合分析系统	编号SH011110008	有效期 2019-3-13
<input type="checkbox"/> GMS-2000 立式分布式光度计	编号SH011120002	有效期 2018-7-24
<input checked="" type="checkbox"/> G0-V 1920 卧式分布式光度计	编号SH011120005	有效期 2018-7-24
<input type="checkbox"/> 手持式照度计	编号SH014110002	
<input type="checkbox"/> LFA-3000		

**检测项目**

<input checked="" type="checkbox"/> 光色电	<input type="checkbox"/> 自吸收系数	<input checked="" type="checkbox"/> 配光曲线	<input type="checkbox"/> 光源启动上升时间
<input type="checkbox"/> 频闪			

**样品说明**

样品编号	样品描述	备注
01001	佳-4 吋筒灯 10W-4000K-防眩	
02001	佳-6吋筒灯 15W-4000K-防眩	
04001	佳-6吋筒灯 15W-4000K-前置	

样品图片



01001

02001

04001



报告编号: OPSZ201807092-G01

## 检测结果汇总

样品 编 号	电参数				光参数			色品参数					配光参数				光度修正	
	I (A)	U (V)	P (W)	PF	$\Phi$ (lm)	$\Phi_e$ (m W)	光效 (lm/ W)	x	y	CCT (K)	Ra	SDCM	中心光 强 (cd)	最大光 强 (cd)	光束角°		自吸收 系数	修正光 通量
															0°- 180 °	90°- 270°		
01001	0.051	220.2	10.1	0.908	909.7	/	90.1	0.3870	0.3769	3827	84.1	5.6	444.2	444.8	93.7	93.8	/	/
02001	0.075	220.2	15.0	0.905	1685.9	/	112.1	0.3855	0.3802	3891	83.6	3.4	833.7	833.7	93.1	92.8	/	/
04001	0.075	220.1	14.9	0.905	1821.7	/	122.4	0.3889	0.3825	3821	83.4	4.8	751.3	751.3	100.0	100.0	/	/
备注: 附件		<input checked="" type="checkbox"/> 光源光谱测试数据 <input checked="" type="checkbox"/> 分布光度数据 <input type="checkbox"/> 光通维持率 <input type="checkbox"/> 光源启动上升时间数据																

\*\*\*\*\* 报告结束 \*\*\*\*\*

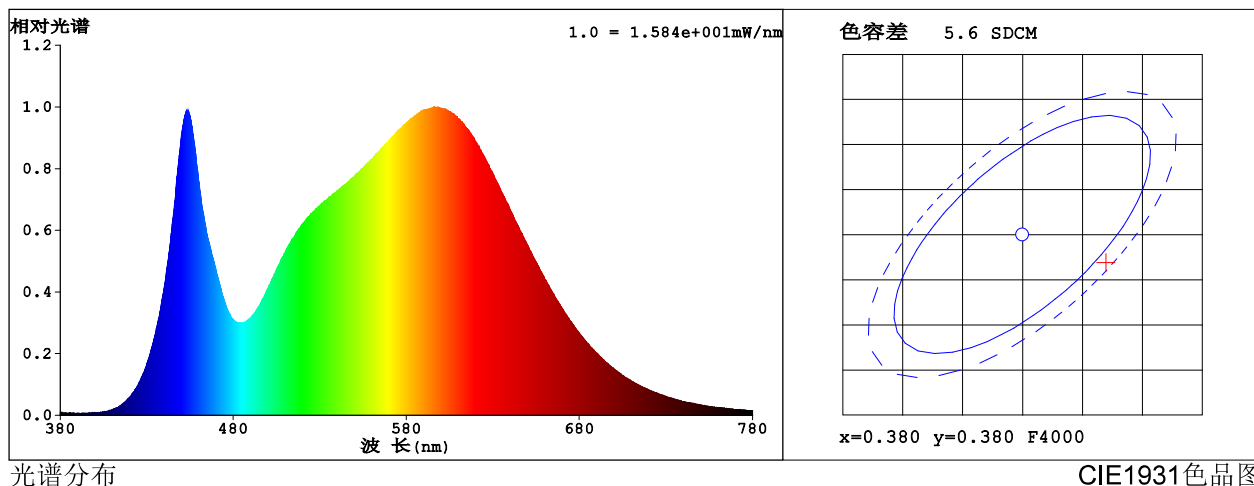
## 光源光谱测试报告

样品名称	:	测试日期	: 2018-07-19 09:22:35
样品型号	: 佳-4吋筒灯 10W-4000K-防眩	样品状态	:
样品编号	: OPSZ201807092-01001	测试仪器	: HaasSuite(EVERFINE)
制造厂商	:	测试人员	: JJY
备注	: 0h		

### 测试条件

环境温度	: 25.3Deg	环境湿度	: 65.0%
测试范围	: 380nm-780nm	峰值IP	: 52521 (80%)
测量模式	: 快速测试	积分时间	: 261 ms
		灵敏度	: 高

### 光谱参数



光谱分布

CIE1931色品图

### CIE颜色参数

色品坐标:  $x = 0.3870$   $y = 0.3769$  /  $u' = 0.2294$   $v' = 0.5026$  ( $duv = -1.77e-03$ )  
相关色温: CCT=3827K 主波长:  $\lambda_d = 580.7\text{nm}$  色纯度: Purity=29.2%  
峰值波长:  $\lambda_p = 596\text{nm}$  半峰带宽: FWHM=147.5nm 色比: R=19.2% G=77.2% B=3.6%

显色指数:  $R_a = 84.1$

R1 =83	R2 =91	R3 =95	R4 =82	R5 =83	R6 =87	R7 =86
R8 =66	R9 =16	R10 =77	R11 =80	R12 =65	R13 =85	R14 =98
						R15 =78

### 光度&辐射度参数

### 电参数

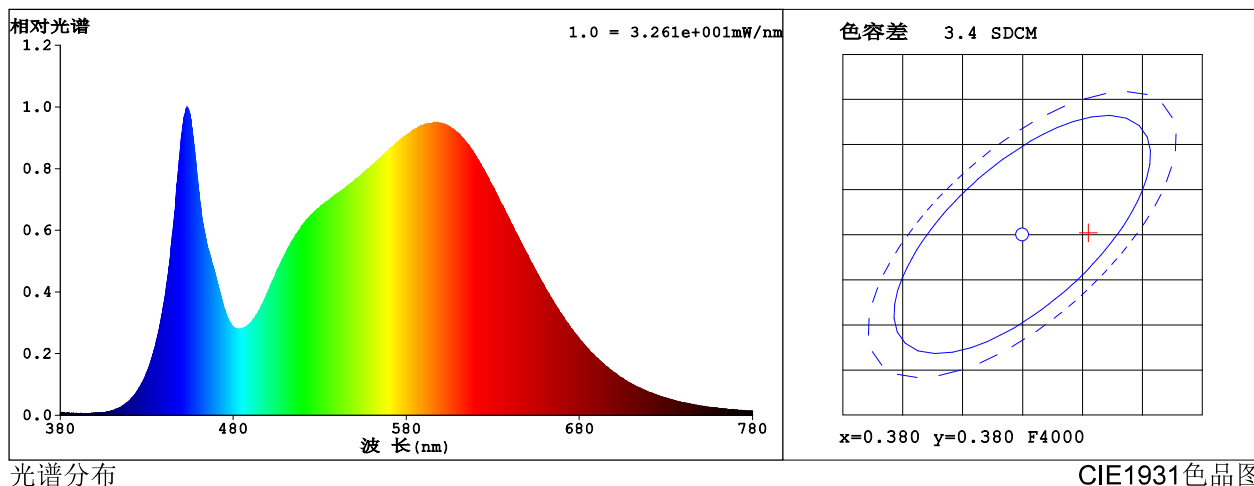
## 光源光谱测试报告

样品名称	:	测试日期	: 2018-07-19 09:42:34
样品型号	: 佳-6吋筒灯 15W-4000K-防眩	样品状态	:
样品编号	: OPSZ201807092-02001	测试仪器	: HaasSuite(EVERFINE)
制造厂商	:	测试人员	: JJY
备注	: 0h		

### 测试条件

环境温度	: 25.3Deg	环境湿度	: 65.0%
测试范围	: 380nm-780nm	峰值IP	: 51007 (78%)
测量模式	: 快速测试	积分时间	: 130 ms
		灵敏度	: 高

### 光谱参数



### CIE颜色参数

色品坐标:  $x = 0.3855$   $y = 0.3802$  /  $u' = 0.2271$   $v' = 0.5039$  ( $duv=1.66e-04$ )  
相关色温: CCT=3891K 主波长:  $\lambda_d=579.4\text{nm}$  色纯度: Purity=29.8%  
峰值波长:  $\lambda_p=453\text{nm}$  半峰带宽: FWHM=24.3nm 色比: R=18.8% G=77.7% B=3.5%

显色指数:  $R_a = 83.6$

R1 =82	R2 =90	R3 =95	R4 =82	R5 =82	R6 =85	R7 =87
R8 =66	R9 =14	R10=75	R11=80	R12=61	R13=84	R14=97 R15=77

### 光度&辐射度参数

### 电参数

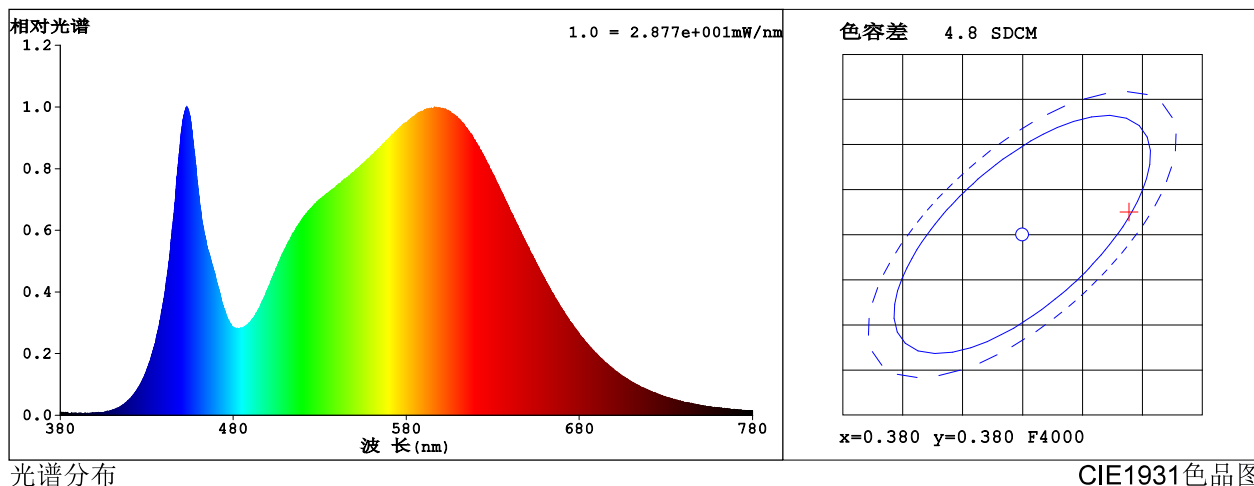
## 光源光谱测试报告

样品名称	:	测试日期	: 2018-07-19 10:05:25
样品型号	: 佳-6吋筒灯 15W-4000K-前置	样品状态	:
样品编号	: OPSZ201807092-04001	测试仪器	: HaasSuite(EVERFINE)
制造厂商	:	测试人员	: JJY
备注	: 0h		

### 测试条件

环境温度	: 25.3Deg	环境湿度	: 65.0%
测试范围	: 380nm-780nm	峰值IP	: 47422 (72%)
测量模式	: 快速测试	积分时间	: 130 ms
		灵敏度	: 高

### 光谱参数



### CIE颜色参数

色品坐标:  $x = 0.3889$   $y = 0.3825$  /  $u' = 0.2284$   $v' = 0.5053$  ( $duv=2.97e-04$ )  
相关色温: CCT=3821K 主波长:  $\lambda_d=579.6\text{nm}$  色纯度: Purity=31.5%  
峰值波长:  $\lambda_p=453\text{nm}$  半峰带宽: FWHM=24.3nm 色比: R=19.0% G=77.6% B=3.4%

显色指数: Ra = 83.4

R1 =82	R2 =90	R3 =95	R4 =82	R5 =81	R6 =85	R7 =87
R8 =66	R9 =13	R10=75	R11=80	R12=61	R13=84	R14=97 R15=76

### 光度&辐射度参数

### 电参数

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	909.69 lm	<b>Av. Voltage:</b>	220.2161 V
<b>Efficacy:</b>	90.11 lm/ W	<b>Av. Current:</b>	0.05051 A
<b>Maximum:</b>	444.822 cd	<b>Av. Power:</b>	10.097 W
<b>FluxCone-90:</b>	680.49 lm	<b>Av. Power Factor:</b>	0.9077
<b>FluxCone-120:</b>	865.27 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 3:44:06 PM	<b>Operator:</b>	SLY

### Protocol

**LiTG-class:** A51  
**UTE-class:** 1.00 C  
**IES-class:** 67 - 95 - 99 - 100 - 100  
**TM5-class:** BZ1

#### Divergences in the plane through maximum intensity:

	Horizontal	Vertical
One half peak divergence	93.7°	93.8°
Half peak side angle (left)	-46.5°	-45.9°
Half peak side angle (right)	47.1°	47.9°
One tenth peak divergence	122.4°	122.1°
Tenth peak side angle (left)	-61.0°	-60.1°
Tenth peak side angle (right)	61.4°	62.0°

<b>C-planes:</b>	0.0°	15.0°	30.0°	45.0°	60.0°	75.0°	90.0°	105.0°	120.0°	135.0°
	150.0°	165.0°	180.0°	195.0°	210.0°	225.0°	240.0°	255.0°	270.0°	285.0°
	300.0°	315.0°	330.0°	345.0°						

<b>Gamma:</b>	0.0°	1.0°	2.0°	3.0°	4.0°	5.0°	6.0°	7.0°	8.0°	9.0°
	10.0°	11.0°	12.0°	13.0°	14.0°	15.0°	16.0°	17.0°	18.0°	19.0°
	20.0°	21.0°	22.0°	23.0°	24.0°	25.0°	26.0°	27.0°	28.0°	29.0°
	30.0°	31.0°	32.0°	33.0°	34.0°	35.0°	36.0°	37.0°	38.0°	39.0°
	40.0°	41.0°	42.0°	43.0°	44.0°	45.0°	46.0°	47.0°	48.0°	49.0°
	50.0°	51.0°	52.0°	53.0°	54.0°	55.0°	56.0°	57.0°	58.0°	59.0°
	60.0°	61.0°	62.0°	63.0°	64.0°	65.0°	66.0°	67.0°	68.0°	69.0°
	70.0°	71.0°	72.0°	73.0°	74.0°	75.0°	76.0°	77.0°	78.0°	79.0°
	80.0°	81.0°	82.0°	83.0°	84.0°	85.0°	86.0°	87.0°	88.0°	89.0°
	90.0°	91.0°	92.0°	93.0°	94.0°	95.0°	96.0°	97.0°	98.0°	99.0°
	100.0°									



## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	909.69 lm	<b>Av. Voltage:</b>	220.2161 V
<b>Efficacy:</b>	90.11 lm/ W	<b>Av. Current:</b>	0.05051 A
<b>Maximum:</b>	444.822 cd	<b>Av. Power:</b>	10.097 W
<b>FluxCone-90:</b>	680.49 lm	<b>Av. Power Factor:</b>	0.9077
<b>FluxCone-120:</b>	865.27 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 3:44:06 PM	<b>Operator:</b>	SLY

### Electrical protocol OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan / C-Plane measurement

[deg]	U [V]	I [A]	P [W]	PF
0.0	220.2160	0.05050	10.095	0.9077
15.0	220.2170	0.05052	10.100	0.9078
30.0	220.2160	0.05049	10.091	0.9076
45.0	220.2160	0.05051	10.096	0.9077
60.0	220.2170	0.05052	10.100	0.9078
75.0	220.2150	0.05051	10.097	0.9077
90.0	220.2160	0.05049	10.091	0.9076
105.0	220.2160	0.05049	10.092	0.9077
120.0	220.2170	0.05052	10.098	0.9077
135.0	220.2160	0.05052	10.098	0.9077
150.0	220.2160	0.05052	10.101	0.9078
165.0	220.2160	0.05052	10.099	0.9077
180.0	220.2160	0.05050	10.095	0.9077
195.0	220.2170	0.05052	10.100	0.9078
210.0	220.2160	0.05049	10.091	0.9076
225.0	220.2160	0.05051	10.096	0.9077
240.0	220.2170	0.05052	10.100	0.9078
255.0	220.2150	0.05051	10.097	0.9077
270.0	220.2160	0.05049	10.091	0.9076
285.0	220.2160	0.05049	10.092	0.9077
300.0	220.2170	0.05052	10.098	0.9077
315.0	220.2160	0.05052	10.098	0.9077
330.0	220.2160	0.05052	10.101	0.9078
345.0	220.2160	0.05052	10.099	0.9077



OPPLE Lighting Lab

欧普照明实验室

**Electrical protocol OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-  
FangXuan / C-Plane measurement**

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	909.69 lm	<b>Av. Voltage:</b>	220.2161 V
<b>Efficacy:</b>	90.11 lm/ W	<b>Av. Current:</b>	0.05051 A
<b>Maximum:</b>	444.822 cd	<b>Av. Power:</b>	10.097 W
<b>FluxCone-90:</b>	680.49 lm	<b>Av. Power Factor:</b>	0.9077
<b>FluxCone-120:</b>	865.27 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 3:44:06 PM	<b>Operator:</b>	SLY

### Zonal flux OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan / C-Plane measurement

Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
0.0	443.4	444.2	443.9	0.00	0.00	0.00	0.00
1.0	443.1	444.4	443.8	0.42	0.42	0.05	0.05
2.0	442.5	444.8	443.6	1.27	1.70	0.14	0.19
3.0	441.9	444.5	443.3	2.12	3.82	0.23	0.42
4.0	441.5	444.3	442.9	2.97	6.79	0.33	0.75
5.0	440.7	444.1	442.4	3.81	10.59	0.42	1.16
6.0	439.7	443.9	441.9	4.65	15.24	0.51	1.68
7.0	438.8	443.7	441.2	5.48	20.72	0.60	2.28
8.0	437.7	443.0	440.5	6.31	27.03	0.69	2.97
9.0	436.6	442.6	439.7	7.13	34.17	0.78	3.76
10.0	435.4	442.0	438.9	7.95	42.12	0.87	4.63
11.0	434.1	441.7	438.1	8.76	50.88	0.96	5.59
12.0	433.0	441.1	437.3	9.57	60.45	1.05	6.65
13.0	431.8	440.5	436.5	10.37	70.82	1.14	7.79
14.0	430.4	439.7	435.6	11.16	81.98	1.23	9.01
15.0	429.0	438.9	434.5	11.94	93.93	1.31	10.33
16.0	427.6	438.0	433.4	12.72	106.65	1.40	11.72
17.0	426.1	437.3	432.1	13.48	120.12	1.48	13.20
18.0	424.5	436.1	430.5	14.22	134.35	1.56	14.77
19.0	422.7	434.0	428.7	14.95	149.29	1.64	16.41
20.0	420.3	432.3	426.7	15.66	164.95	1.72	18.13



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**Zonal flux OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan / C-Plane measurement**

Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
21.0	418.1	430.3	424.5	16.35	181.30	1.80	19.93
22.0	415.6	428.0	422.1	17.01	198.31	1.87	21.80
23.0	412.9	425.4	419.3	17.66	215.97	1.94	23.74
24.0	409.8	422.5	416.3	18.27	234.24	2.01	25.75
25.0	406.5	419.5	413.0	18.86	253.09	2.07	27.82
26.0	402.8	416.0	409.5	19.41	272.51	2.13	29.96
27.0	399.1	412.0	405.6	19.94	292.45	2.19	32.15
28.0	394.8	407.8	401.3	20.43	312.88	2.25	34.39
29.0	390.0	403.6	396.8	20.88	333.76	2.30	36.69
30.0	385.1	399.0	391.8	21.29	355.06	2.34	39.03
31.0	379.4	393.6	386.3	21.65	376.71	2.38	41.41
32.0	373.4	387.5	380.2	21.96	398.67	2.41	43.82
33.0	366.9	381.5	373.8	22.21	420.88	2.44	46.27
34.0	359.8	374.6	366.6	22.41	443.29	2.46	48.73
35.0	351.4	367.1	358.6	22.52	465.81	2.48	51.21
36.0	342.4	358.9	349.8	22.55	488.37	2.48	53.68
37.0	332.3	350.7	340.6	22.52	510.88	2.48	56.16
38.0	322.0	340.8	330.5	22.40	533.28	2.46	58.62
39.0	310.9	330.3	319.8	22.20	555.48	2.44	61.06
40.0	299.3	320.0	308.8	21.92	577.40	2.41	63.47
41.0	286.3	309.5	297.4	21.59	598.99	2.37	65.85
42.0	274.0	298.2	285.4	21.18	620.17	2.33	68.17
43.0	261.1	286.4	273.2	20.69	640.86	2.27	70.45
44.0	247.8	274.2	260.2	20.13	660.99	2.21	72.66
45.0	233.7	262.3	247.1	19.50	680.49	2.14	74.80
46.0	220.4	248.7	233.7	18.80	699.29	2.07	76.87
47.0	205.8	234.6	219.8	18.04	717.33	1.98	78.85
48.0	191.5	220.5	205.7	17.20	734.53	1.89	80.74
49.0	177.1	206.4	191.5	16.31	750.85	1.79	82.54
50.0	163.7	192.5	177.7	15.40	766.24	1.69	84.23
51.0	149.5	178.0	163.9	14.45	780.69	1.59	85.82
52.0	135.7	163.5	149.7	13.45	794.15	1.48	87.30
53.0	122.2	149.5	136.0	12.43	806.58	1.37	88.66
54.0	109.5	136.2	122.7	11.40	817.98	1.25	89.92
55.0	96.5	122.2	109.7	10.37	828.35	1.14	91.06
56.0	84.4	108.8	97.1	9.34	837.69	1.03	92.09
57.0	72.7	96.1	85.0	8.33	846.02	0.92	93.00
58.0	62.7	84.5	73.8	7.34	853.36	0.81	93.81
59.0	53.2	72.5	63.1	6.40	859.76	0.70	94.51
60.0	45.0	62.0	53.6	5.51	865.27	0.61	95.12



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**Zonal flux OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan / C-Plane measurement**

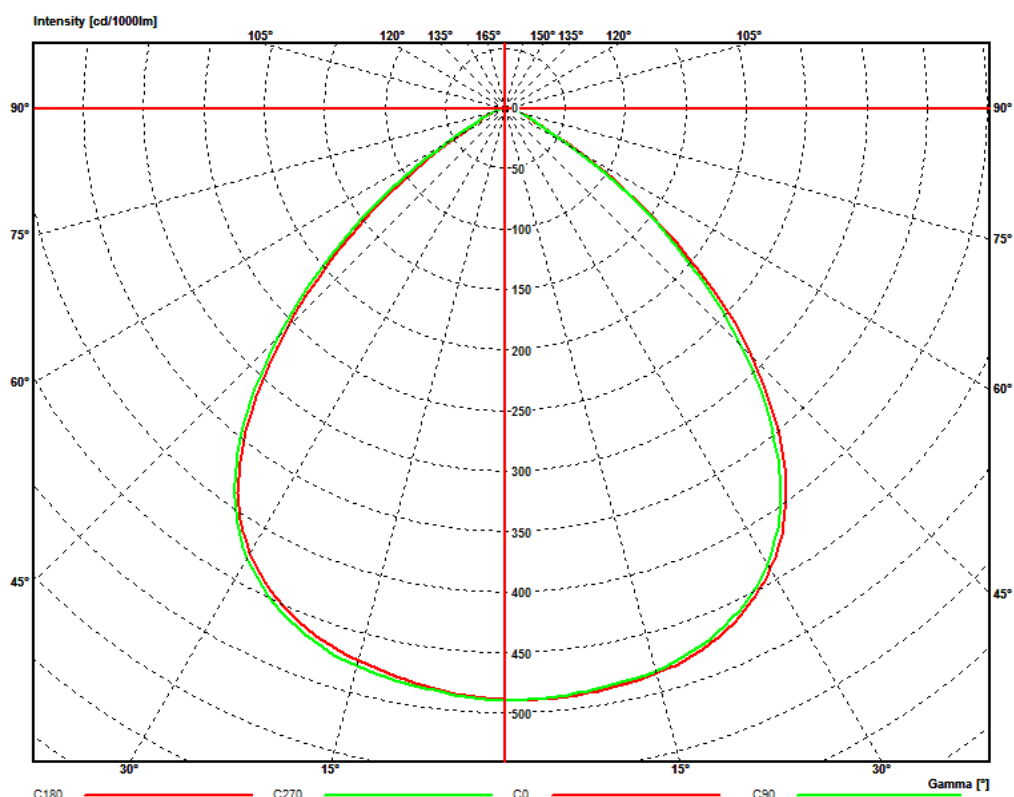
Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
61.0	38.5	52.5	45.3	4.72	869.99	0.52	95.64
62.0	33.3	44.2	38.3	4.03	874.02	0.44	96.08
63.0	28.9	36.7	32.3	3.43	877.45	0.38	96.46
64.0	25.3	30.4	27.5	2.93	880.39	0.32	96.78
65.0	23.4	25.8	24.6	2.58	882.96	0.28	97.06
66.0	21.8	23.8	22.8	2.36	885.32	0.26	97.32
67.0	20.2	22.1	21.2	2.21	887.53	0.24	97.56
68.0	18.8	20.4	19.6	2.07	889.60	0.23	97.79
69.0	17.3	18.8	18.1	1.92	891.52	0.21	98.00
70.0	16.0	17.4	16.7	1.79	893.31	0.20	98.20
71.0	14.7	16.1	15.4	1.66	894.97	0.18	98.38
72.0	13.5	14.7	14.1	1.53	896.50	0.17	98.55
73.0	12.4	13.5	13.0	1.42	897.92	0.16	98.71
74.0	11.3	12.4	11.8	1.30	899.23	0.14	98.85
75.0	10.3	11.4	10.8	1.20	900.42	0.13	98.98
76.0	9.4	10.4	9.8	1.10	901.52	0.12	99.10
77.0	8.4	9.4	8.9	1.00	902.52	0.11	99.21
78.0	7.5	8.5	8.0	0.91	903.43	0.10	99.31
79.0	6.7	7.7	7.2	0.82	904.24	0.09	99.40
80.0	5.9	6.9	6.4	0.73	904.98	0.08	99.48
81.0	5.1	6.1	5.6	0.65	905.63	0.07	99.55
82.0	4.3	5.4	4.9	0.57	906.20	0.06	99.62
83.0	3.5	4.7	4.2	0.49	906.69	0.05	99.67
84.0	2.8	4.0	3.5	0.42	907.11	0.05	99.72
85.0	2.1	3.4	2.8	0.34	907.45	0.04	99.75
86.0	1.4	2.7	2.2	0.28	907.73	0.03	99.78
87.0	1.0	2.2	1.7	0.21	907.94	0.02	99.81
88.0	0.9	1.8	1.3	0.16	908.11	0.02	99.83
89.0	0.9	1.5	1.2	0.14	908.24	0.02	99.84
90.0	0.9	1.2	1.1	0.12	908.37	0.01	99.85
91.0	0.9	1.3	1.1	0.12	908.48	0.01	99.87
92.0	0.9	1.3	1.1	0.12	908.61	0.01	99.88
93.0	1.0	1.3	1.2	0.13	908.73	0.01	99.89
94.0	1.0	1.4	1.2	0.13	908.86	0.01	99.91
95.0	1.0	1.4	1.2	0.13	908.99	0.01	99.92
96.0	1.1	1.4	1.2	0.13	909.12	0.01	99.94
97.0	1.1	1.4	1.3	0.14	909.26	0.02	99.95
98.0	1.1	1.5	1.3	0.14	909.40	0.02	99.97
99.0	1.2	1.5	1.4	0.14	909.55	0.02	99.98
100.0	1.2	1.5	1.4	0.15	909.69	0.02	100.00

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	909.69 lm	<b>Av. Voltage:</b>	220.2161 V
<b>Efficacy:</b>	90.11 lm/ W	<b>Av. Current:</b>	0.05051 A
<b>Maximum:</b>	444.822 cd	<b>Av. Power:</b>	10.097 W
<b>FluxCone-90:</b>	680.49 lm	<b>Av. Power Factor:</b>	0.9077
<b>FluxCone-120:</b>	865.27 lm	<b>Company:</b>	Opplc
<b>Date:</b>	7/16/2018 3:44:06 PM	<b>Operator:</b>	SLY

### Polar diagram OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan / C-Plane measurement

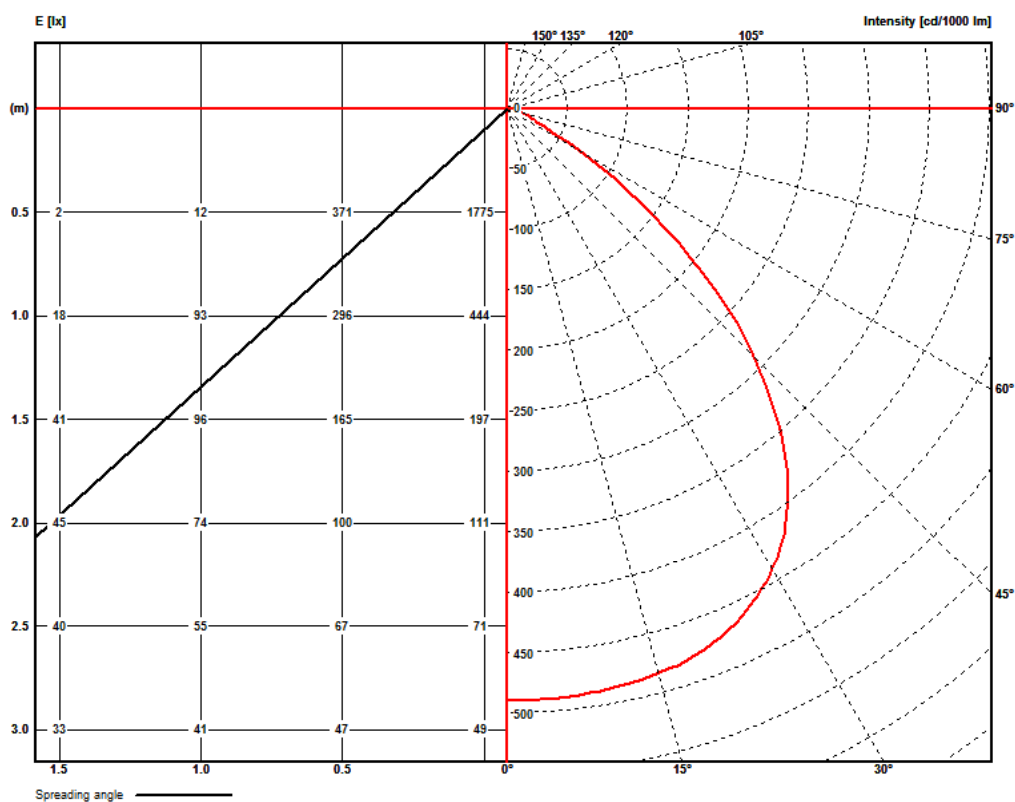


## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	909.69 lm	<b>Av. Voltage:</b>	220.2161 V
<b>Efficacy:</b>	90.11 lm/ W	<b>Av. Current:</b>	0.05051 A
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<b>FluxCone-90:</b>	680.49 lm	<b>Av. Power Factor:</b>	0.9077
<b>FluxCone-120:</b>	865.27 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 3:44:06 PM	<b>Operator:</b>	SLY

**Illuminance and Intensity diagram OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan / C-Plane measurement**





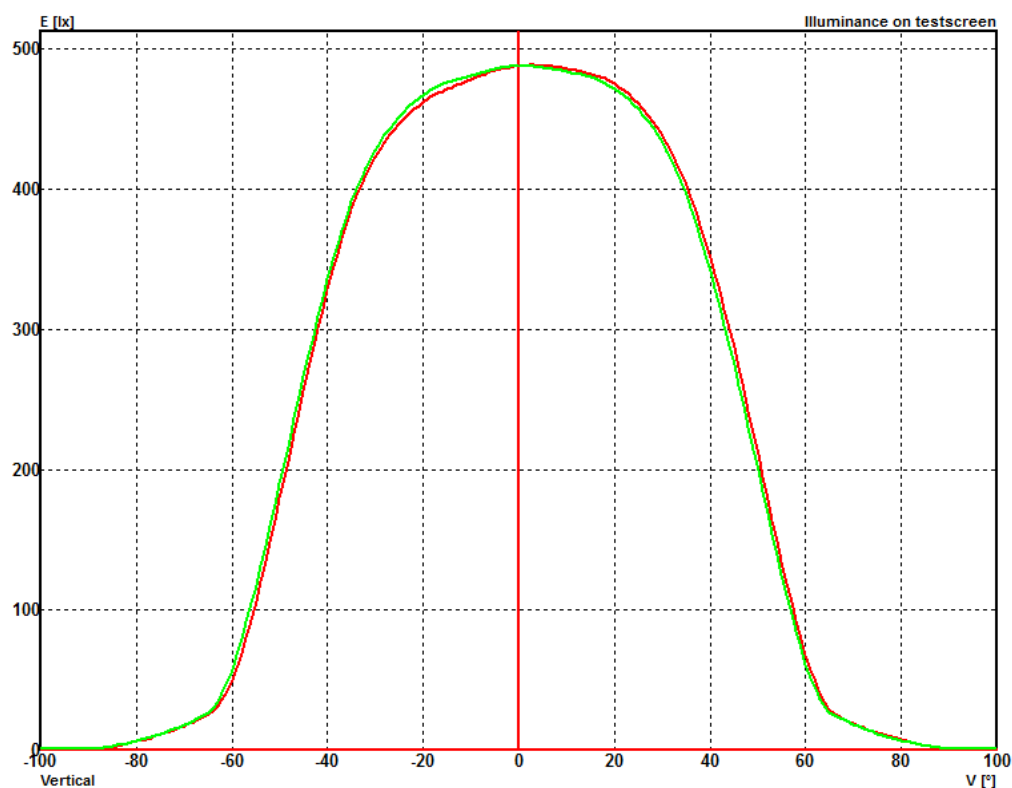
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## PHOTOMETRIC RESULTS



Name:	OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan		
Program:	Far-C15-G1-Downlight		
Lum. flux:	909.69 lm	Av. Voltage:	220.2161 V
Efficacy:	90.11 lm/ W	Av. Current:	0.05051 A
Maximum:	444.822 cd	Av. Power:	10.097 W
FluxCone-90:	680.49 lm	Av. Power Factor:	0.9077
FluxCone-120:	865.27 lm	Company:	Oppl
Date:	7/16/2018 3:44:06 PM	Operator:	SLY

Cartesian diagram OPSZ201807092-01001-Jia-4CunTongDeng-10W-4000k-FangXuan / C-Plane measurement





## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1685.90 lm	<b>Av. Voltage:</b>	220.1768 V
<b>Efficacy:</b>	112.09 lm/ W	<b>Av. Current:</b>	0.07548 A
<b>Maximum:</b>	833.724 cd	<b>Av. Power:</b>	15.040 W
<b>FluxCone-90:</b>	1256.25 lm	<b>Av. Power Factor:</b>	0.9049
<b>FluxCone-120:</b>	1593.48 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 2:14:32 PM	<b>Operator:</b>	SLY

### Protocol

**LiTG-class:** A51  
**UTE-class:** 1.00 C  
**IES-class:** 67 - 95 - 99 - 100 - 100  
**TM5-class:** BZ1

#### Divergences in the plane through maximum intensity:

	Horizontal	Vertical
One half peak divergence	93.1°	92.8°
Half peak side angle (left)	-46.4°	-46.0°
Half peak side angle (right)	46.7°	46.8°
One tenth peak divergence	121.9°	122.2°
Tenth peak side angle (left)	-60.9°	-60.7°
Tenth peak side angle (right)	61.0°	61.5°

<b>C-planes:</b>	0.0°	15.0°	30.0°	45.0°	60.0°	75.0°	90.0°	105.0°	120.0°	135.0°
	150.0°	165.0°	180.0°	195.0°	210.0°	225.0°	240.0°	255.0°	270.0°	285.0°
	300.0°	315.0°	330.0°	345.0°						

<b>Gamma:</b>	0.0°	1.0°	2.0°	3.0°	4.0°	5.0°	6.0°	7.0°	8.0°	9.0°
	10.0°	11.0°	12.0°	13.0°	14.0°	15.0°	16.0°	17.0°	18.0°	19.0°
	20.0°	21.0°	22.0°	23.0°	24.0°	25.0°	26.0°	27.0°	28.0°	29.0°
	30.0°	31.0°	32.0°	33.0°	34.0°	35.0°	36.0°	37.0°	38.0°	39.0°
	40.0°	41.0°	42.0°	43.0°	44.0°	45.0°	46.0°	47.0°	48.0°	49.0°
	50.0°	51.0°	52.0°	53.0°	54.0°	55.0°	56.0°	57.0°	58.0°	59.0°
	60.0°	61.0°	62.0°	63.0°	64.0°	65.0°	66.0°	67.0°	68.0°	69.0°
	70.0°	71.0°	72.0°	73.0°	74.0°	75.0°	76.0°	77.0°	78.0°	79.0°
	80.0°	81.0°	82.0°	83.0°	84.0°	85.0°	86.0°	87.0°	88.0°	89.0°
	90.0°	91.0°	92.0°	93.0°	94.0°	95.0°	96.0°	97.0°	98.0°	99.0°
	100.0°									

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1685.90 lm	<b>Av. Voltage:</b>	220.1768 V
<b>Efficacy:</b>	112.09 lm/ W	<b>Av. Current:</b>	0.07548 A
<b>Maximum:</b>	833.724 cd	<b>Av. Power:</b>	15.040 W
<b>FluxCone-90:</b>	1256.25 lm	<b>Av. Power Factor:</b>	0.9049
<b>FluxCone-120:</b>	1593.48 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 2:14:32 PM	<b>Operator:</b>	SLY

### Electrical protocol OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan / C-Plane measurement

[deg]	U [V]	I [A]	P [W]	PF
0.0	220.1770	0.07549	15.042	0.9050
15.0	220.1760	0.07550	15.045	0.9050
30.0	220.1760	0.07549	15.041	0.9049
45.0	220.1750	0.07550	15.045	0.9050
60.0	220.1770	0.07550	15.044	0.9050
75.0	220.1770	0.07549	15.040	0.9049
90.0	220.1760	0.07548	15.038	0.9049
105.0	220.1770	0.07547	15.037	0.9049
120.0	220.1780	0.07547	15.038	0.9050
135.0	220.1770	0.07547	15.037	0.9050
150.0	220.1780	0.07546	15.034	0.9049
165.0	220.1780	0.07546	15.035	0.9049
180.0	220.1770	0.07549	15.042	0.9050
195.0	220.1760	0.07550	15.045	0.9050
210.0	220.1760	0.07549	15.041	0.9049
225.0	220.1750	0.07550	15.045	0.9050
240.0	220.1770	0.07550	15.044	0.9050
255.0	220.1770	0.07549	15.040	0.9049
270.0	220.1760	0.07548	15.038	0.9049
285.0	220.1770	0.07547	15.037	0.9049
300.0	220.1780	0.07547	15.038	0.9050
315.0	220.1770	0.07547	15.037	0.9050
330.0	220.1780	0.07546	15.034	0.9049
345.0	220.1780	0.07546	15.035	0.9049



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**Electrical protocol OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-  
FangXuan / C-Plane measurement**

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1685.90 lm	<b>Av. Voltage:</b>	220.1768 V
<b>Efficacy:</b>	112.09 lm/ W	<b>Av. Current:</b>	0.07548 A
<b>Maximum:</b>	833.724 cd	<b>Av. Power:</b>	15.040 W
<b>FluxCone-90:</b>	1256.25 lm	<b>Av. Power Factor:</b>	0.9049
<b>FluxCone-120:</b>	1593.48 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 2:14:32 PM	<b>Operator:</b>	SLY

### Zonal flux OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan / C-Plane measurement

Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
0.0	832.7	833.7	833.4	0.00	0.00	0.00	0.00
1.0	832.7	833.7	833.2	0.80	0.80	0.05	0.05
2.0	832.7	833.7	833.1	2.39	3.19	0.14	0.19
3.0	831.7	833.7	832.7	3.98	7.17	0.24	0.43
4.0	830.7	832.7	832.2	5.57	12.75	0.33	0.76
5.0	830.7	832.7	831.5	7.16	19.90	0.42	1.18
6.0	829.7	831.7	830.7	8.74	28.64	0.52	1.70
7.0	828.6	830.7	829.8	10.31	38.94	0.61	2.31
8.0	827.6	830.7	829.0	11.87	50.82	0.70	3.01
9.0	826.6	829.7	828.1	13.43	64.25	0.80	3.81
10.0	825.6	828.6	827.2	14.98	79.23	0.89	4.70
11.0	824.6	827.6	826.2	16.52	95.75	0.98	5.68
12.0	823.6	826.6	825.1	18.05	113.80	1.07	6.75
13.0	821.5	825.6	823.7	19.57	133.37	1.16	7.91
14.0	820.5	824.6	822.4	21.07	154.44	1.25	9.16
15.0	818.5	822.5	820.5	22.55	176.99	1.34	10.50
16.0	815.4	820.5	818.1	24.01	201.00	1.42	11.92
17.0	812.4	817.5	815.2	25.44	226.44	1.51	13.43
18.0	809.3	813.4	811.8	26.83	253.26	1.59	15.02
19.0	806.3	810.3	808.0	28.18	281.44	1.67	16.69
20.0	801.2	806.3	803.5	29.49	310.94	1.75	18.44



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**Zonal flux OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan / C-Plane measurement**

Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
21.0	796.1	801.2	798.3	30.76	341.70	1.82	20.27
22.0	790.0	795.1	792.8	31.97	373.67	1.90	22.16
23.0	782.9	789.0	786.6	33.14	406.81	1.97	24.13
24.0	775.8	782.9	779.7	34.25	441.06	2.03	26.16
25.0	767.6	775.8	772.1	35.29	476.34	2.09	28.25
26.0	758.5	768.7	763.9	36.26	512.60	2.15	30.41
27.0	749.3	759.5	754.5	37.15	549.75	2.20	32.61
28.0	739.2	749.3	744.5	37.95	587.70	2.25	34.86
29.0	727.0	740.2	733.4	38.67	626.37	2.29	37.15
30.0	713.7	728.0	721.1	39.27	665.64	2.33	39.48
31.0	699.5	715.8	707.4	39.75	705.39	2.36	41.84
32.0	684.3	701.5	692.9	40.12	745.51	2.38	44.22
33.0	668.0	687.3	677.9	40.38	785.89	2.40	46.62
34.0	652.7	672.1	662.4	40.56	826.45	2.41	49.02
35.0	637.5	656.8	646.1	40.63	867.09	2.41	51.43
36.0	620.2	639.5	629.0	40.60	907.69	2.41	53.84
37.0	603.9	623.3	612.5	40.49	948.18	2.40	56.24
38.0	587.7	606.0	595.5	40.32	988.50	2.39	58.63
39.0	569.4	587.7	578.0	40.06	1028.55	2.38	61.01
40.0	550.1	570.4	559.4	39.67	1068.22	2.35	63.36
41.0	530.7	551.1	540.2	39.16	1107.38	2.32	65.68
42.0	511.4	530.7	520.4	38.53	1145.91	2.29	67.97
43.0	490.1	510.4	499.3	37.77	1183.68	2.24	70.21
44.0	466.7	487.0	476.6	36.83	1220.51	2.18	72.40
45.0	442.3	464.6	453.3	35.74	1256.25	2.12	74.52
46.0	416.9	441.3	428.6	34.49	1290.74	2.05	76.56
47.0	391.4	414.8	403.6	33.10	1323.84	1.96	78.52
48.0	366.0	390.4	377.9	31.59	1355.44	1.87	80.40
49.0	340.6	364.0	351.8	29.97	1385.40	1.78	82.18
50.0	313.2	338.6	325.8	28.25	1413.65	1.68	83.85
51.0	287.7	311.1	299.7	26.46	1440.12	1.57	85.42
52.0	261.3	284.7	273.4	24.59	1464.71	1.46	86.88
53.0	234.9	260.3	247.8	22.67	1487.38	1.34	88.22
54.0	210.5	233.8	222.8	20.74	1508.12	1.23	89.46
55.0	187.1	208.4	198.7	18.82	1526.94	1.12	90.57
56.0	163.7	185.0	175.0	16.89	1543.83	1.00	91.57
57.0	141.3	162.7	152.8	14.99	1558.81	0.89	92.46
58.0	121.0	142.3	132.5	13.19	1572.01	0.78	93.24
59.0	104.7	121.0	113.7	11.51	1583.51	0.68	93.93
60.0	89.5	103.7	97.3	9.97	1593.48	0.59	94.52



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**Zonal flux OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan / C-Plane measurement**

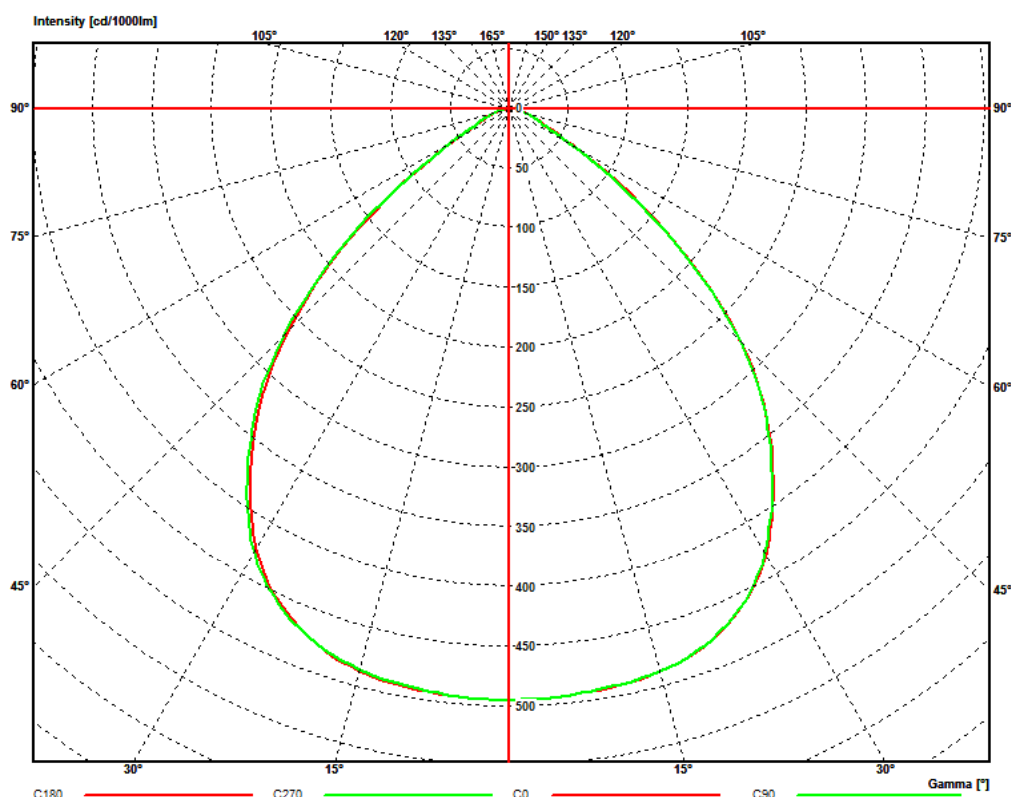
Gamma [°]	Imin [cd/klm]	Imax [cd/klm]	Imean [cd/klm]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
61.0	77.3	90.5	84.0	8.65	1602.13	0.51	95.03
62.0	67.1	78.3	73.1	7.57	1609.70	0.45	95.48
63.0	60.0	68.1	64.4	6.69	1616.39	0.40	95.88
64.0	52.9	60.0	56.8	5.94	1622.33	0.35	96.23
65.0	48.8	53.9	51.3	5.35	1627.68	0.32	96.55
66.0	45.8	49.8	47.9	4.95	1632.63	0.29	96.84
67.0	42.7	45.8	44.6	4.65	1637.28	0.28	97.12
68.0	39.7	42.7	41.3	4.35	1641.63	0.26	97.37
69.0	36.6	39.7	38.3	4.06	1645.69	0.24	97.62
70.0	33.6	36.6	35.3	3.78	1649.47	0.22	97.84
71.0	31.5	34.6	32.7	3.51	1652.98	0.21	98.05
72.0	28.5	31.5	30.2	3.27	1656.25	0.19	98.24
73.0	26.4	28.5	27.7	3.03	1659.28	0.18	98.42
74.0	24.4	26.4	25.5	2.80	1662.08	0.17	98.59
75.0	22.4	24.4	23.2	2.57	1664.65	0.15	98.74
76.0	20.3	22.4	21.1	2.35	1667.00	0.14	98.88
77.0	18.3	20.3	19.1	2.15	1669.15	0.13	99.01
78.0	16.3	18.3	17.5	1.96	1671.11	0.12	99.12
79.0	14.2	16.3	15.6	1.78	1672.89	0.11	99.23
80.0	13.2	15.3	14.0	1.60	1674.49	0.09	99.32
81.0	11.2	13.2	12.6	1.44	1675.93	0.09	99.41
82.0	10.2	12.2	10.9	1.28	1677.20	0.08	99.48
83.0	9.2	10.2	9.7	1.12	1678.33	0.07	99.55
84.0	7.1	9.2	8.6	1.00	1679.32	0.06	99.61
85.0	6.1	8.1	7.3	0.86	1680.19	0.05	99.66
86.0	5.1	7.1	6.4	0.75	1680.94	0.04	99.71
87.0	4.1	6.1	5.1	0.63	1681.57	0.04	99.74
88.0	3.1	5.1	4.2	0.51	1682.08	0.03	99.77
89.0	3.1	4.1	3.3	0.41	1682.49	0.02	99.80
90.0	2.0	3.1	2.7	0.33	1682.82	0.02	99.82
91.0	2.0	3.1	2.5	0.29	1683.11	0.02	99.83
92.0	2.0	3.1	2.5	0.28	1683.39	0.02	99.85
93.0	2.0	3.1	2.7	0.29	1683.67	0.02	99.87
94.0	2.0	3.1	2.7	0.29	1683.97	0.02	99.89
95.0	2.0	3.1	2.8	0.30	1684.27	0.02	99.90
96.0	2.0	3.1	3.0	0.31	1684.58	0.02	99.92
97.0	3.1	3.1	3.1	0.33	1684.91	0.02	99.94
98.0	3.1	3.1	3.1	0.33	1685.24	0.02	99.96
99.0	3.1	3.1	3.1	0.33	1685.57	0.02	99.98
100.0	3.1	3.1	3.1	0.33	1685.90	0.02	100.00

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1685.90 lm	<b>Av. Voltage:</b>	220.1768 V
<b>Efficacy:</b>	112.09 lm/ W	<b>Av. Current:</b>	0.07548 A
<b>Maximum:</b>	833.724 cd	<b>Av. Power:</b>	15.040 W
<b>FluxCone-90:</b>	1256.25 lm	<b>Av. Power Factor:</b>	0.9049
<b>FluxCone-120:</b>	1593.48 lm	<b>Company:</b>	Opplc
<b>Date:</b>	7/16/2018 2:14:32 PM	<b>Operator:</b>	SLY

### Polar diagram OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan / C-Plane measurement

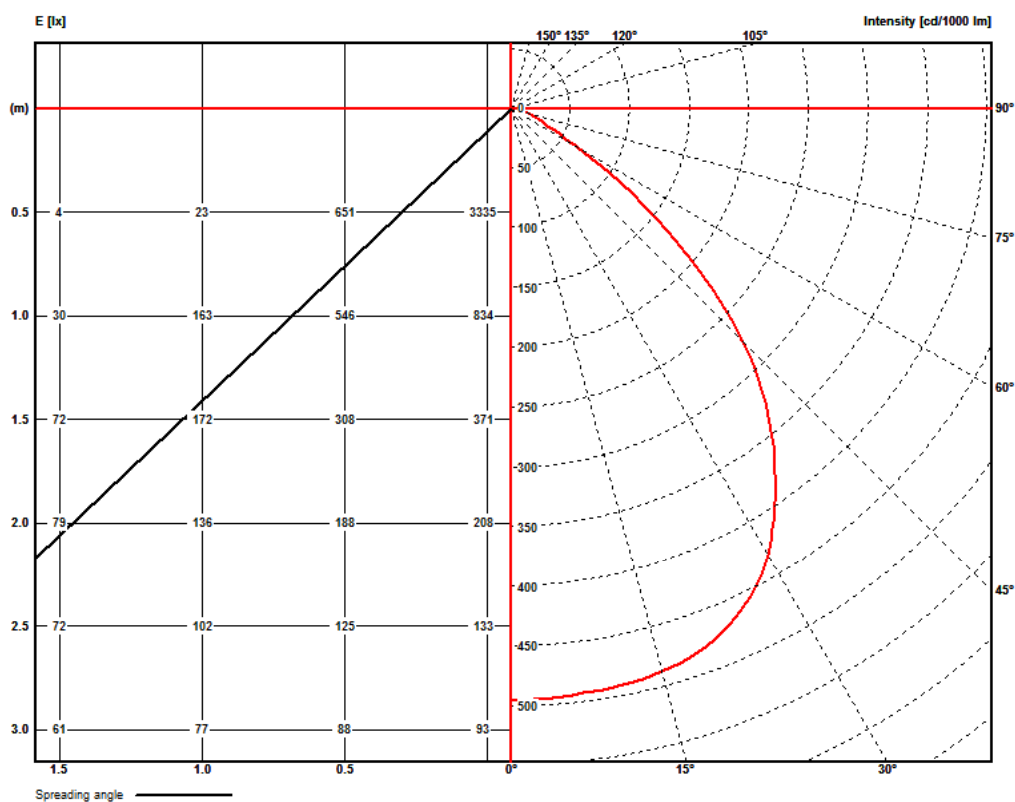


## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1685.90 lm	<b>Av. Voltage:</b>	220.1768 V
<b>Efficacy:</b>	112.09 lm/ W	<b>Av. Current:</b>	0.07548 A
<b>Maximum:</b>	833.724 cd	<b>Av. Power:</b>	15.040 W
<b>FluxCone-90:</b>	1256.25 lm	<b>Av. Power Factor:</b>	0.9049
<b>FluxCone-120:</b>	1593.48 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 2:14:32 PM	<b>Operator:</b>	SLY

### Illuminance and Intensity diagram OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan / C-Plane measurement



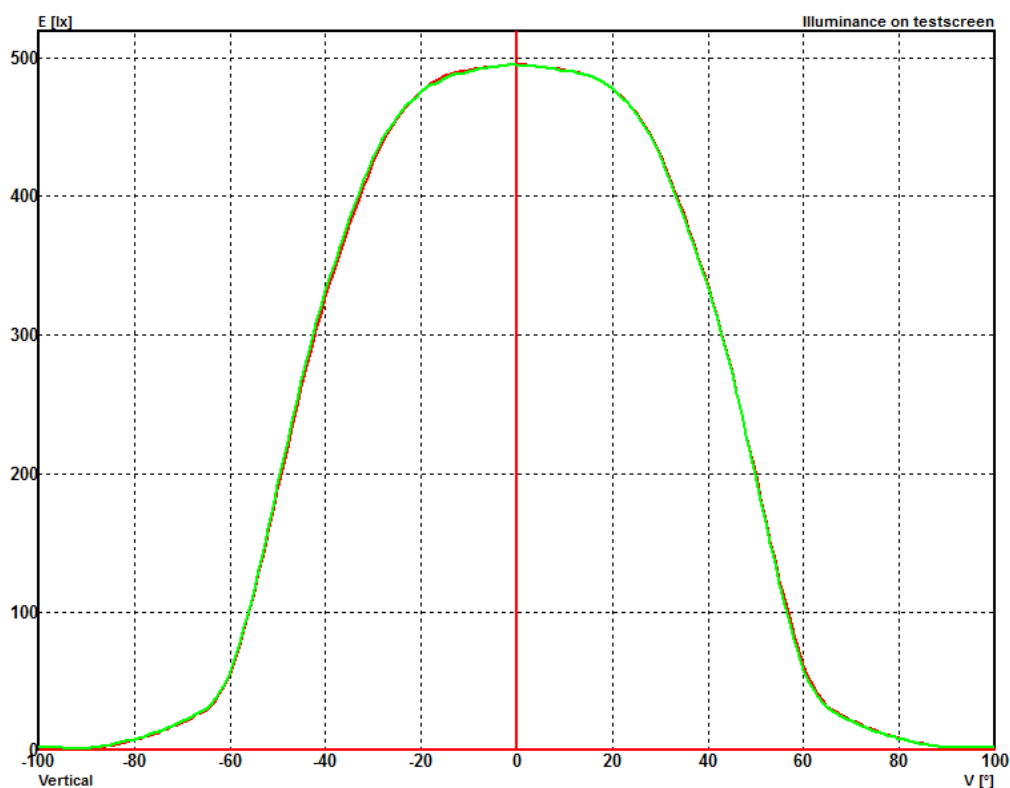


## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1685.90 lm	<b>Av. Voltage:</b>	220.1768 V
<b>Efficacy:</b>	112.09 lm/ W	<b>Av. Current:</b>	0.07548 A
<b>Maximum:</b>	833.724 cd	<b>Av. Power:</b>	15.040 W
<b>FluxCone-90:</b>	1256.25 lm	<b>Av. Power Factor:</b>	0.9049
<b>FluxCone-120:</b>	1593.48 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/16/2018 2:14:32 PM	<b>Operator:</b>	SLY

**Cartesian diagram OPSZ201807092-02001-Jia-6CunTongDeng-15W-4000k-FangXuan / C-Plane measurement**



## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1821.73 lm	<b>Av. Voltage:</b>	220.1408 V
<b>Efficacy:</b>	122.39 lm/ W	<b>Av. Current:</b>	0.07469 A
<b>Maximum:</b>	751.266 cd	<b>Av. Power:</b>	14.882 W
<b>FluxCone-90:</b>	1076.84 lm	<b>Av. Power Factor:</b>	0.9052
<b>FluxCone-120:</b>	1521.88 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/17/2018 9:39:14 AM	<b>Operator:</b>	SLY

### Protocol

**LiTG-class:** A41  
**UTE-class:** 1.00 D  
**IES-class:** 52 - 84 - 98 - 100 - 100  
**TM5-class:** BZ3

#### Divergences in the plane through maximum intensity:

	Horizontal	Vertical
One half peak divergence	100.0°	100.0°
Half peak side angle (left)	-49.4°	-49.8°
Half peak side angle (right)	50.6°	50.3°
One tenth peak divergence	151.8°	151.8°
Tenth peak side angle (left)	-75.3°	-75.6°
Tenth peak side angle (right)	76.4°	76.2°

<b>C-planes:</b>	0.0°	15.0°	30.0°	45.0°	60.0°	75.0°	90.0°	105.0°	120.0°	135.0°
	150.0°	165.0°	180.0°	195.0°	210.0°	225.0°	240.0°	255.0°	270.0°	285.0°
	300.0°	315.0°	330.0°	345.0°						

<b>Gamma:</b>	0.0°	1.0°	2.0°	3.0°	4.0°	5.0°	6.0°	7.0°	8.0°	9.0°
	10.0°	11.0°	12.0°	13.0°	14.0°	15.0°	16.0°	17.0°	18.0°	19.0°
	20.0°	21.0°	22.0°	23.0°	24.0°	25.0°	26.0°	27.0°	28.0°	29.0°
	30.0°	31.0°	32.0°	33.0°	34.0°	35.0°	36.0°	37.0°	38.0°	39.0°
	40.0°	41.0°	42.0°	43.0°	44.0°	45.0°	46.0°	47.0°	48.0°	49.0°
	50.0°	51.0°	52.0°	53.0°	54.0°	55.0°	56.0°	57.0°	58.0°	59.0°
	60.0°	61.0°	62.0°	63.0°	64.0°	65.0°	66.0°	67.0°	68.0°	69.0°
	70.0°	71.0°	72.0°	73.0°	74.0°	75.0°	76.0°	77.0°	78.0°	79.0°
	80.0°	81.0°	82.0°	83.0°	84.0°	85.0°	86.0°	87.0°	88.0°	89.0°
	90.0°	91.0°	92.0°	93.0°	94.0°	95.0°	96.0°	97.0°	98.0°	99.0°
	100.0°									

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1821.73 lm	<b>Av. Voltage:</b>	220.1408 V
<b>Efficacy:</b>	122.39 lm/ W	<b>Av. Current:</b>	0.07469 A
<b>Maximum:</b>	751.266 cd	<b>Av. Power:</b>	14.882 W
<b>FluxCone-90:</b>	1076.84 lm	<b>Av. Power Factor:</b>	0.9052
<b>FluxCone-120:</b>	1521.88 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/17/2018 9:39:14 AM	<b>Operator:</b>	SLY

### Electrical protocol OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi / C-Plane measurement

[deg]	U [V]	I [A]	P [W]	PF
0.0	220.1390	0.07468	14.882	0.9052
15.0	220.1390	0.07468	14.882	0.9052
30.0	220.1390	0.07470	14.884	0.9052
45.0	220.1380	0.07469	14.882	0.9051
60.0	220.1410	0.07469	14.883	0.9051
75.0	220.1420	0.07467	14.879	0.9052
90.0	220.1420	0.07467	14.880	0.9052
105.0	220.1430	0.07469	14.883	0.9052
120.0	220.1410	0.07469	14.882	0.9052
135.0	220.1410	0.07470	14.884	0.9052
150.0	220.1400	0.07470	14.883	0.9051
165.0	220.1440	0.07470	14.885	0.9052
180.0	220.1390	0.07468	14.882	0.9052
195.0	220.1390	0.07468	14.882	0.9052
210.0	220.1390	0.07470	14.884	0.9052
225.0	220.1380	0.07469	14.882	0.9051
240.0	220.1410	0.07469	14.883	0.9051
255.0	220.1420	0.07467	14.879	0.9052
270.0	220.1420	0.07467	14.880	0.9052
285.0	220.1430	0.07469	14.883	0.9052
300.0	220.1410	0.07469	14.882	0.9052
315.0	220.1410	0.07470	14.884	0.9052
330.0	220.1400	0.07470	14.883	0.9051
345.0	220.1440	0.07470	14.885	0.9052



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**Electrical protocol OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi /  
C-Plane measurement**

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1821.73 lm	<b>Av. Voltage:</b>	220.1408 V
<b>Efficacy:</b>	122.39 lm/ W	<b>Av. Current:</b>	0.07469 A
<b>Maximum:</b>	751.266 cd	<b>Av. Power:</b>	14.882 W
<b>FluxCone-90:</b>	1076.84 lm	<b>Av. Power Factor:</b>	0.9052
<b>FluxCone-120:</b>	1521.88 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/17/2018 9:39:14 AM	<b>Operator:</b>	SLY

### Zonal flux OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi / C-Plane measurement

Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
0.0	750.5	751.3	750.9	0.00	0.00	0.00	0.00
1.0	749.8	751.2	750.6	0.72	0.72	0.04	0.04
2.0	749.0	751.1	750.1	2.15	2.87	0.12	0.16
3.0	748.0	750.1	749.2	3.59	6.46	0.20	0.35
4.0	746.2	749.0	747.8	5.01	11.47	0.28	0.63
5.0	744.5	747.5	746.1	6.43	17.90	0.35	0.98
6.0	742.0	745.8	743.9	7.83	25.73	0.43	1.41
7.0	739.3	743.5	741.4	9.22	34.95	0.51	1.92
8.0	736.1	740.9	738.6	10.59	45.54	0.58	2.50
9.0	733.0	738.4	735.5	11.95	57.49	0.66	3.16
10.0	729.0	735.1	731.9	13.28	70.77	0.73	3.88
11.0	724.7	731.3	728.0	14.59	85.35	0.80	4.69
12.0	720.2	727.0	723.6	15.87	101.22	0.87	5.56
13.0	715.5	722.7	718.9	17.12	118.34	0.94	6.50
14.0	710.2	718.0	714.0	18.34	136.68	1.01	7.50
15.0	704.6	713.2	708.8	19.53	156.22	1.07	8.58
16.0	699.1	707.3	703.1	20.69	176.91	1.14	9.71
17.0	692.8	701.8	697.2	21.81	198.71	1.20	10.91
18.0	686.1	695.4	690.8	22.89	221.60	1.26	12.16
19.0	679.3	689.7	684.3	23.92	245.52	1.31	13.48
20.0	672.1	682.7	677.4	24.92	270.44	1.37	14.85



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**Zonal flux OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi / C-Plane measurement**

Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
21.0	664.6	675.5	670.2	25.88	296.32	1.42	16.27
22.0	657.3	668.3	662.9	26.79	323.11	1.47	17.74
23.0	649.4	660.8	655.1	27.65	350.76	1.52	19.25
24.0	641.5	652.5	647.0	28.47	379.23	1.56	20.82
25.0	633.0	644.9	638.7	29.23	408.47	1.60	22.42
26.0	624.6	636.2	630.4	29.96	438.42	1.64	24.07
27.0	615.1	627.6	621.7	30.63	469.06	1.68	25.75
28.0	606.5	618.9	612.9	31.26	500.32	1.72	27.46
29.0	596.8	610.4	603.8	31.83	532.15	1.75	29.21
30.0	587.7	601.3	594.6	32.36	564.51	1.78	30.99
31.0	578.4	591.6	584.9	32.82	597.33	1.80	32.79
32.0	568.6	582.1	575.2	33.24	630.57	1.82	34.61
33.0	558.5	572.4	565.5	33.60	664.17	1.84	36.46
34.0	548.6	562.8	555.6	33.93	698.10	1.86	38.32
35.0	538.3	552.5	545.6	34.20	732.30	1.88	40.20
36.0	528.2	542.0	535.1	34.41	766.70	1.89	42.09
37.0	516.9	532.4	524.8	34.57	801.27	1.90	43.98
38.0	506.3	521.6	514.3	34.68	835.95	1.90	45.89
39.0	495.6	510.4	503.2	34.73	870.68	1.91	47.79
40.0	484.3	499.1	492.0	34.71	905.39	1.91	49.70
41.0	472.6	488.0	480.6	34.63	940.03	1.90	51.60
42.0	461.4	476.4	469.1	34.51	974.53	1.89	53.50
43.0	450.3	465.1	457.9	34.34	1008.87	1.88	55.38
44.0	438.3	453.5	446.1	34.12	1042.99	1.87	57.25
45.0	426.7	442.3	434.6	33.85	1076.84	1.86	59.11
46.0	415.3	430.0	422.7	33.53	1110.36	1.84	60.95
47.0	402.8	418.6	411.0	33.16	1143.52	1.82	62.77
48.0	391.2	406.3	398.9	32.74	1176.26	1.80	64.57
49.0	378.9	394.2	386.9	32.27	1208.53	1.77	66.34
50.0	367.8	382.4	375.2	31.77	1240.30	1.74	68.08
51.0	355.8	370.8	363.3	31.25	1271.55	1.72	69.80
52.0	343.8	357.7	351.0	30.65	1302.20	1.68	71.48
53.0	331.7	345.8	339.0	30.01	1332.21	1.65	73.13
54.0	320.0	334.4	327.1	29.36	1361.57	1.61	74.74
55.0	307.4	322.1	315.1	28.67	1390.24	1.57	76.31
56.0	295.7	309.8	303.0	27.93	1418.16	1.53	77.85
57.0	283.5	298.0	291.0	27.16	1445.32	1.49	79.34
58.0	271.9	286.5	279.1	26.36	1471.69	1.45	80.79
59.0	259.7	274.1	267.1	25.53	1497.22	1.40	82.19
60.0	247.9	262.2	254.8	24.66	1521.88	1.35	83.54

**Zonal flux OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi / C-Plane measurement**

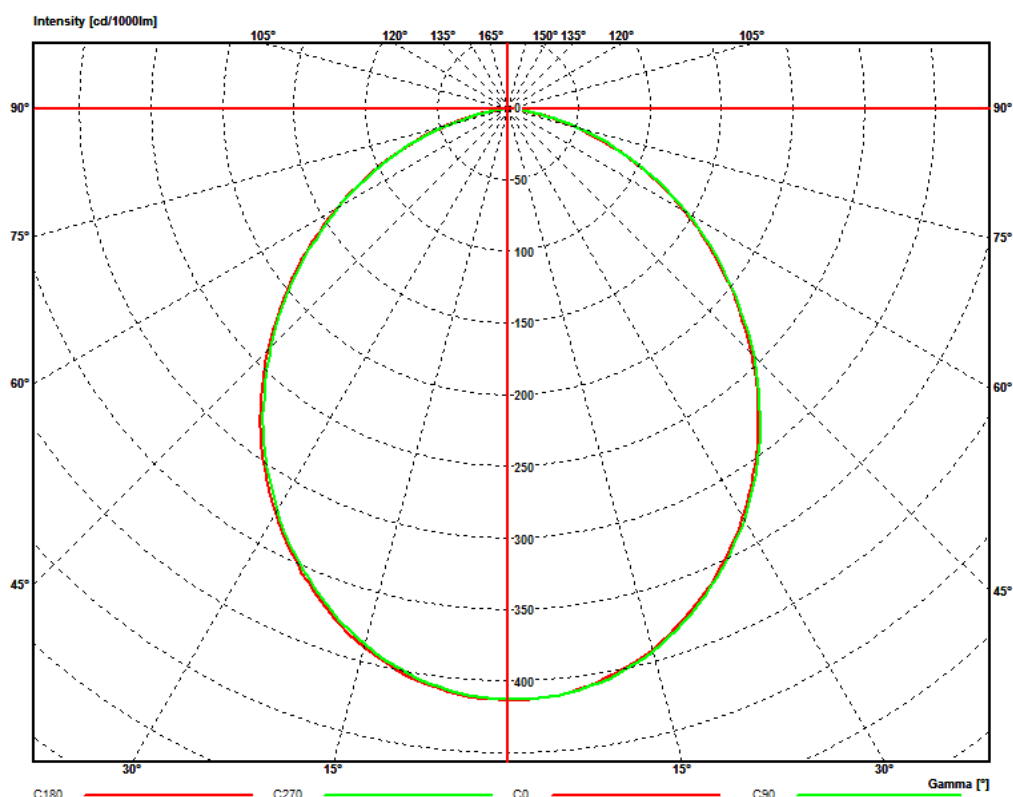
Gamm a [°]	Imin [cd/klm ]	Imax [cd/klm ]	Imean [cd/klm ]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
61.0	236.0	249.9	243.0	23.76	1545.63	1.30	84.84
62.0	224.4	238.4	231.3	22.85	1568.49	1.25	86.10
63.0	212.3	226.9	219.4	21.92	1590.41	1.20	87.30
64.0	200.5	214.3	207.5	20.95	1611.36	1.15	88.45
65.0	188.9	202.4	195.7	19.96	1631.32	1.10	89.55
66.0	176.9	191.1	184.0	18.95	1650.26	1.04	90.59
67.0	166.0	179.3	172.5	17.93	1668.19	0.98	91.57
68.0	154.2	168.0	161.0	16.89	1685.08	0.93	92.50
69.0	142.5	156.1	149.5	15.84	1700.92	0.87	93.37
70.0	131.3	145.1	138.1	14.77	1715.70	0.81	94.18
71.0	120.5	133.6	127.0	13.70	1729.40	0.75	94.93
72.0	109.3	122.4	115.8	12.62	1742.02	0.69	95.62
73.0	98.2	111.5	104.9	11.54	1753.55	0.63	96.26
74.0	87.6	101.2	94.3	10.47	1764.03	0.57	96.83
75.0	77.4	90.3	83.9	9.42	1773.44	0.52	97.35
76.0	67.4	79.8	73.6	8.36	1781.80	0.46	97.81
77.0	57.5	69.8	63.6	7.31	1789.12	0.40	98.21
78.0	48.2	60.3	54.2	6.30	1795.42	0.35	98.56
79.0	40.3	50.9	45.4	5.35	1800.77	0.29	98.85
80.0	32.0	42.3	37.0	4.44	1805.21	0.24	99.09
81.0	24.9	34.3	29.3	3.58	1808.80	0.20	99.29
82.0	18.5	26.8	22.6	2.81	1811.61	0.15	99.44
83.0	13.6	20.8	17.0	2.15	1813.77	0.12	99.56
84.0	9.7	15.5	12.4	1.60	1815.37	0.09	99.65
85.0	7.3	11.2	8.8	1.16	1816.52	0.06	99.71
86.0	6.0	8.3	7.0	0.87	1817.39	0.05	99.76
87.0	4.7	6.8	5.7	0.70	1818.09	0.04	99.80
88.0	3.2	5.5	4.3	0.55	1818.63	0.03	99.83
89.0	1.7	4.2	3.0	0.40	1819.03	0.02	99.85
90.0	1.7	2.7	2.1	0.28	1819.31	0.02	99.87
91.0	1.7	2.3	2.0	0.23	1819.54	0.01	99.88
92.0	1.8	2.3	2.1	0.22	1819.76	0.01	99.89
93.0	1.8	2.3	2.1	0.23	1819.99	0.01	99.90
94.0	1.8	2.4	2.2	0.23	1820.22	0.01	99.92
95.0	1.9	2.4	2.2	0.24	1820.46	0.01	99.93
96.0	1.9	2.5	2.3	0.24	1820.70	0.01	99.94
97.0	2.0	2.5	2.3	0.25	1820.95	0.01	99.96
98.0	2.0	2.6	2.4	0.25	1821.20	0.01	99.97
99.0	2.1	2.7	2.4	0.26	1821.46	0.01	99.99
100.0	2.1	2.7	2.5	0.26	1821.73	0.01	100.00

## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1821.73 lm	<b>Av. Voltage:</b>	220.1408 V
<b>Efficacy:</b>	122.39 lm/ W	<b>Av. Current:</b>	0.07469 A
<b>Maximum:</b>	751.266 cd	<b>Av. Power:</b>	14.882 W
<b>FluxCone-90:</b>	1076.84 lm	<b>Av. Power Factor:</b>	0.9052
<b>FluxCone-120:</b>	1521.88 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/17/2018 9:39:14 AM	<b>Operator:</b>	SLY

### Polar diagram OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi / C-Plane measurement



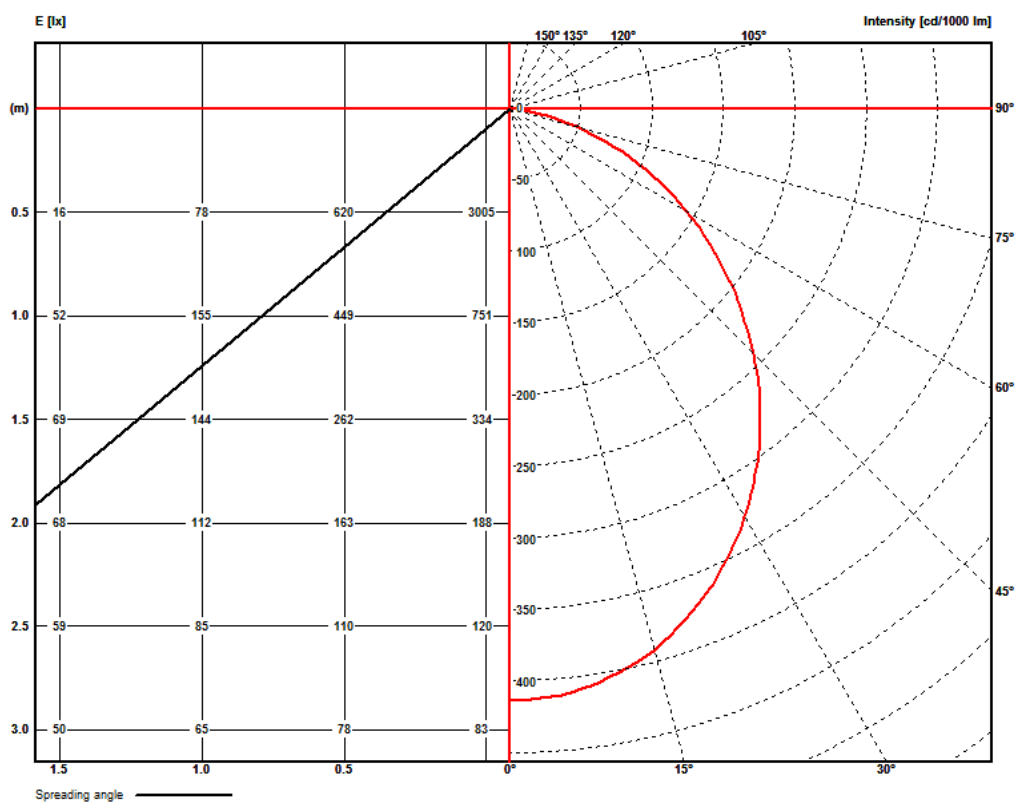


## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1821.73 lm	<b>Av. Voltage:</b>	220.1408 V
<b>Efficacy:</b>	122.39 lm/ W	<b>Av. Current:</b>	0.07469 A
<b>Maximum:</b>	751.266 cd	<b>Av. Power:</b>	14.882 W
<b>FluxCone-90:</b>	1076.84 lm	<b>Av. Power Factor:</b>	0.9052
<b>FluxCone-120:</b>	1521.88 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/17/2018 9:39:14 AM	<b>Operator:</b>	SLY

**Illuminance and Intensity diagram OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi / C-Plane measurement**



## PHOTOMETRIC RESULTS



<b>Name:</b>	OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi		
<b>Program:</b>	Far-C15-G1-Downlight		
<b>Lum. flux:</b>	1821.73 lm	<b>Av. Voltage:</b>	220.1408 V
<b>Efficacy:</b>	122.39 lm/ W	<b>Av. Current:</b>	0.07469 A
<b>Maximum:</b>	751.266 cd	<b>Av. Power:</b>	14.882 W
<b>FluxCone-90:</b>	1076.84 lm	<b>Av. Power Factor:</b>	0.9052
<b>FluxCone-120:</b>	1521.88 lm	<b>Company:</b>	Oppl
<b>Date:</b>	7/17/2018 9:39:14 AM	<b>Operator:</b>	SLY

**Cartesian diagram OPSZ201807092-04001-Jia-6CunTongDeng-15W-4000k-QianZhi / C-Plane measurement**

