LISUN GROUP

旋转灯具空间光谱辐射分布式光度计

(LSG-1800CCD/LSG-1700CCD)

Brochure

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Lead in CFL & LED Test Instruments

Rev. 3/5/2019

系统配置

报价包括以下项目：

A. 角光度系统：

- 旋转台
- 控制器（置于机柜中）：与电脑连接，软件控制（只有 LSG-1800CCD 有此项功能）
- 高精度探头（只有 LSG-1800CCD 有此探头）
- Class A 级探头
- 激光系统
- 中英文软件

B. LMS-9500 高精度快速光谱辐射计（实验室级）

C. CLAMP-9500 可调节的三脚架固定 LMS-9500 光谱辐射计

D. SLS-250W DC 直流标准灯

E. DC3010 程控恒流&恒压 DC 电源

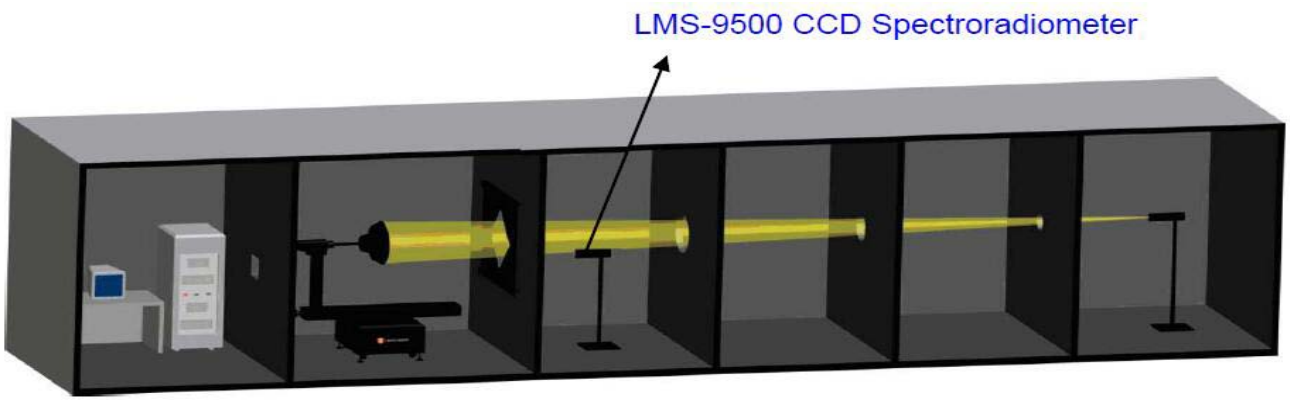
F. LS2012 交流数字电参数表：测试电压，电流，功率，功率因素，频率

G. 交流稳压电源：给被测灯供电

H. CASE-19IN 19 英寸机柜

I. 两套多功能夹具

J. 木质包装箱



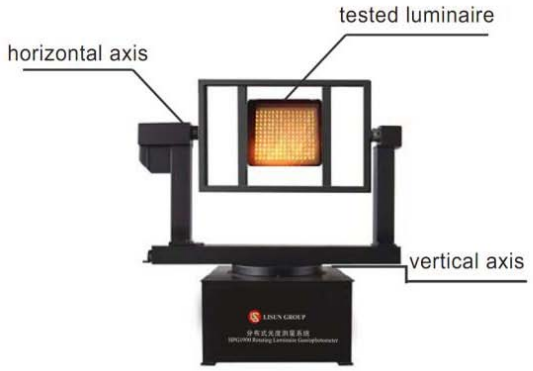
注：用户自行准备电脑和打印机（要求至少 2 个 RS-232 通讯接口）

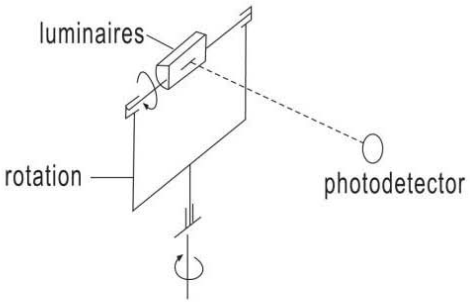
2. 工作原理

LSG-1800CCD/LSG-1700CCD 采用固定探头和旋转灯具的原理。被测灯具安装在旋转台上，采用激光使得灯具发光中心与旋转中心重合。当灯具旋转式，探头测试各个水平方向上的光强参数。仪器允许灯具绕水平轴和垂直轴旋转。当灯具绕水平轴旋转时，探头测试的是同一水平面各个方向上的光强参数。当灯具绕垂直轴旋转时，探头则测试垂直平面各个方向上的光强值。灯具绕垂直轴和水平轴旋转角度为-180°～ +180°。根据测试要求，系统满足 B-β，A-α 和 C-γ 测试方案。当所有测到是所有光强参数后，软件会自动计算出其他光参数。

LSG-1800CCD 双臂结构(B-β，A-α 坐标系)

这种结构用于测试格栅灯，在 B-β 坐标系中灯具对称轴与水平旋转台需重合，在 A-α 二者垂直交叉。

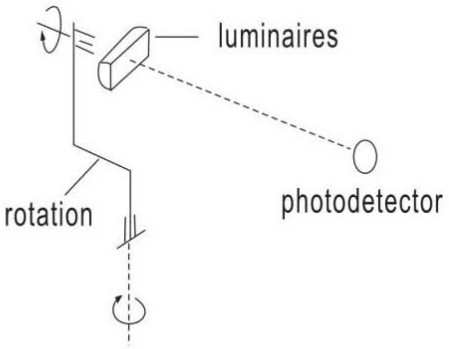




Double pillars structure

LSG-1800CCD/LSG-1700CCD 单臂结构（C-γ 坐标系和圆锥坐标系）

在双臂基础上取下一条辅助臂即变为单臂结构。这种结构用于固定灯管，聚光灯等。灯具发光轴应于旋转台水平轴重合。



3. 系统功能

LSG-1800CCD/LSG-1700CCD 光谱辐射分布式光度计用于光强分布的测试，应用于工业实验室测试 LED 路灯，室内灯，工矿灯等各类灯具的光参数。LSG-1800/LSG-1700 可以测试空间光强分布曲线，空间 CCT 光谱颜色分布，等光强分布曲线，各个区域内的光强分布（用直角坐标系或极坐标表示），亮度限制曲线，光效，炫光等级，有效光束角，上射光通量，下射光通量，总光通量，有限系数和电参数（电压，电流，功率，功率因素，频率）。测试数据可以保存为 IES，LDT，CIE 等格式文件，可直接用于照明设计软件，如 DIALUX。

4. 技术参数：

- 满足 CIE、IEC、IES LM-79 和 GB 标准
- 能实现多种测试方式，如双臂 B-Beta 和单臂(LSG-1800CCD) 以及 C-Gamma 测试(LSG-1700CCD)
- 灯具绕(γ)±180°(or 0-360°)角度旋转，灯具绕自身(C)±180°(or 0-360°)角度旋转
- 光度测试范围：照度范围 0.001lx~10,000lx；光强范围 1.0cd～10^7cd（探头）
- 角度精度：0.01° (LSG-1800CCD)以及 0.1° (LSG-1700CCD)
- 测试灯具 CCT 和频谱参数空间分布，数据可以导出 Excel 格式
- 频谱波长范围：380~780nm；波长精度：±0.2nm
- 色品坐标精度（x, y）：±0.0015
- 相关色温测试范围：1000~100000K，分辨率：1K
- 光度精度：1 级
- 测试精度：3%（标准光源下）；杂散光：小于 0.2%
- 中英文软件可在 WinXP，Win7 或 Win 8 下运行

最大测试灯具尺寸 (mm)	最大测试灯具尺寸		最大测试重量
	单臂 C-Gamma 测试	双臂 B-Beta 测试	
LSG-1800CCD	1600*550	700*600	50kg
LSG-1700CCD	1600*550	N/A	40kg

5. 实验室要求

- 暗室尺寸要求：W3.5m*H2.5m*L8m（推荐：W5m*H2.5m*15m）
- 用于放置机柜，电脑和打印机的操作室尺寸：W3.0m*L3.0m
- 墙壁，天花板和地板需使用哑光黑漆粉刷或是使用黑绒布、黑地毯覆盖。
- 暗室内用空调控制被测灯具周围的温度达到 CIE 标准要求
- 确认采购订单后，LISUN 的工程师会根据用户的实际房间尺寸免费提供暗室示意图

6. 典型海外买家：

请与 LISUN 销售部联系索取买家信息。

7. 设备依据标准：

LSG-1800CCD/LSG-1700CCD 的结构，软件，技术参数，操作步骤等均满足以下标准

3.1 CIE Pub. NO.70,"The Measurement of Absolute Luminous Intensity Distributions"

3.2 CIE DIV.Ⅱ-TC10,"Photometry of Luminaires"

3.3 IES LM-35-1989,"IES Approved Method for Photometric Testing of Floodlights"

3.4 IES LM-31,"IES Approved Method for Photometric Testing of Roadway Luminaires"

3.5 IES-LM-79, "Electrical and Photometric Measurements of Solid-State Lighting"

3.6 GB/T 9467-1988, "Luminosity Test of Indoor Luminaires"

3.7 GB/T 9468-1988, "Luminosity Test of Street Luminaires"

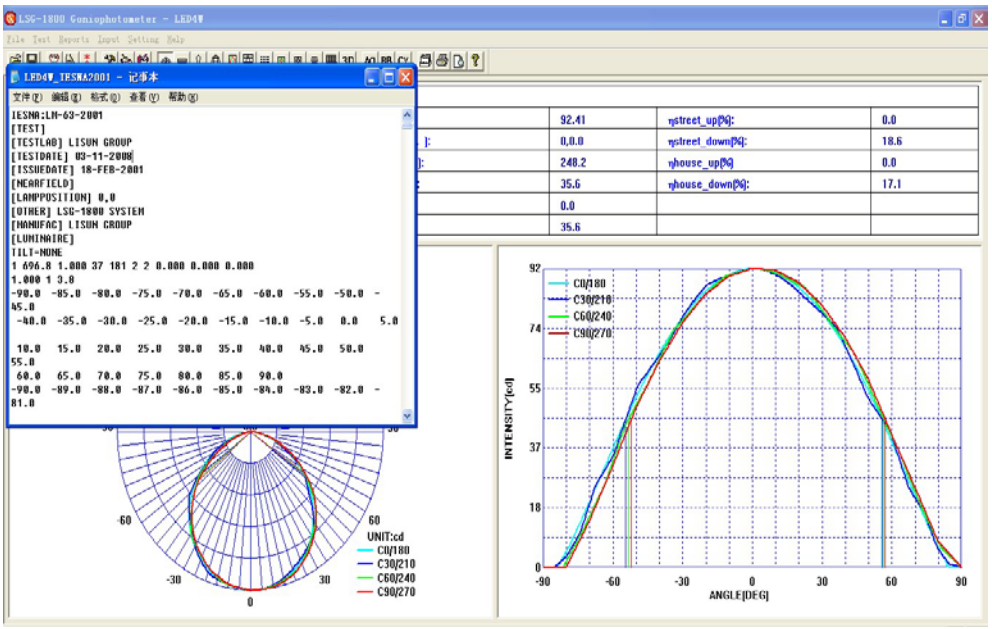
3.8 IES 61341 "Method of Measurement of Center Beam Intensity Angle of Lamp"

3.9 CIE Pub.NO.76, "Photometry-the CIE System of Physical Photometry"

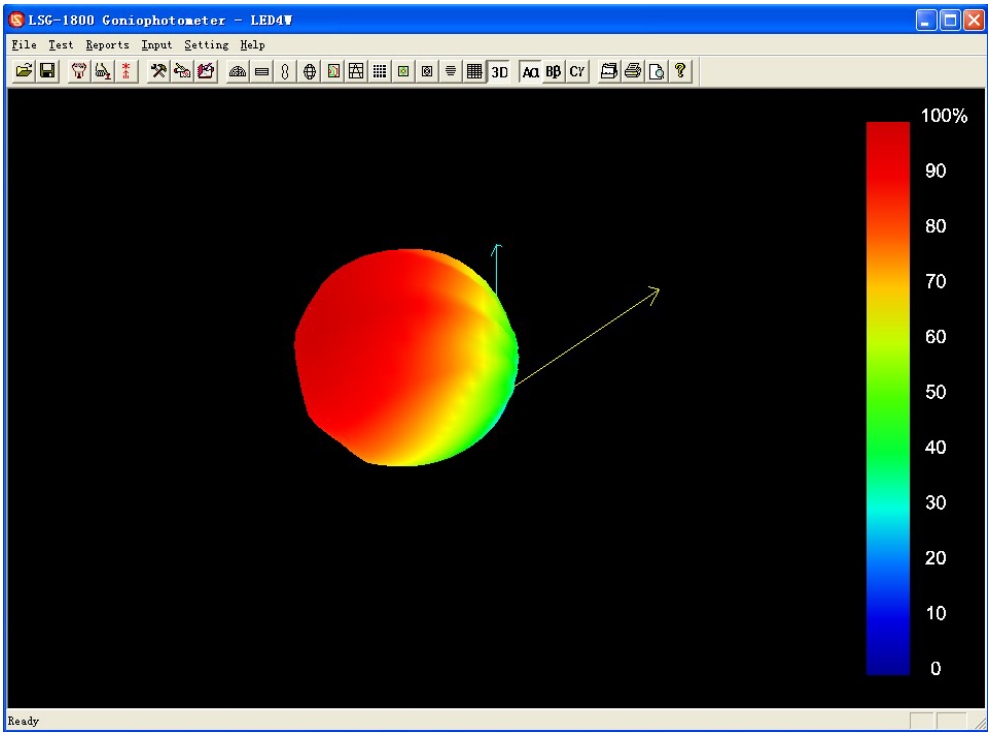
8. 应用软件

LSG-1800CCD/LSG-1700CCD 空间光谱辐射分布式光度计系统的所有操作可以由软件控制实现，包括机械旋转，数据采集，实时监控，测试报告打印等。因此测试数据更方便安全。同时软件可以导出 IES，LDT 等格式文件，可直接用于国际照明设计软件，如 DIALUX。

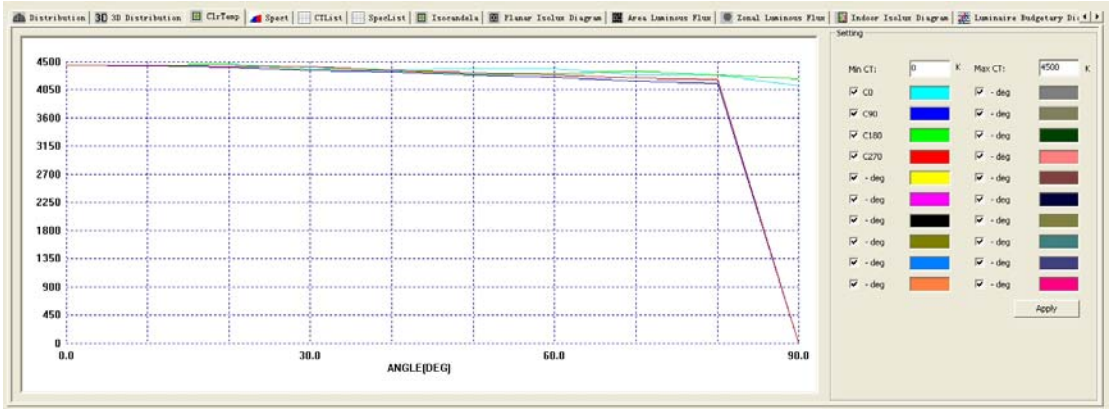
导出 IES 标准文件格式如下：



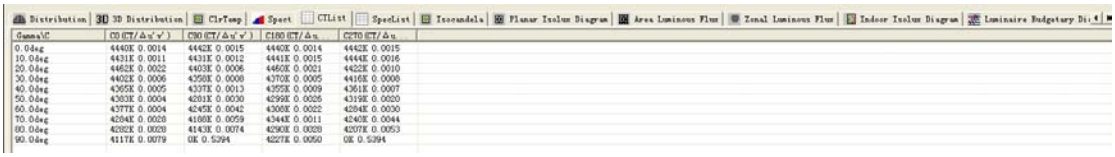
3D 光强分布图



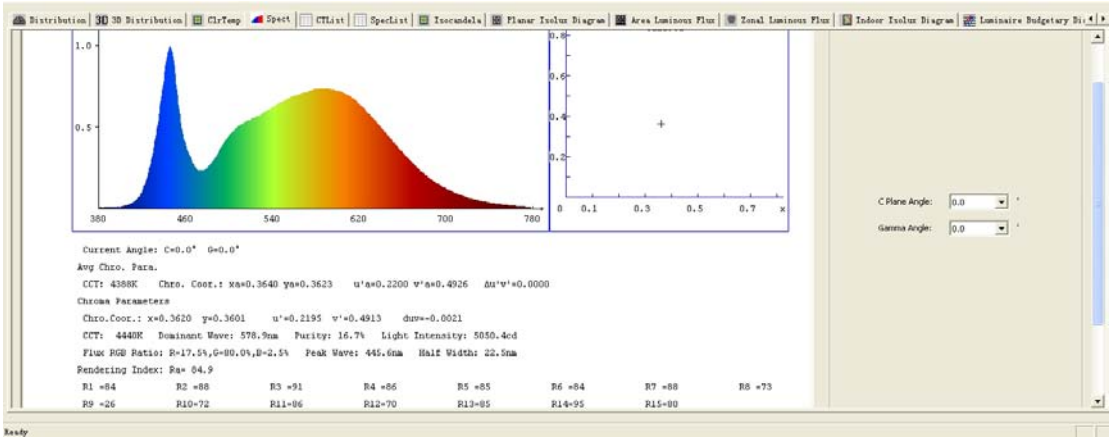
- **CCT 色温空间分布:**



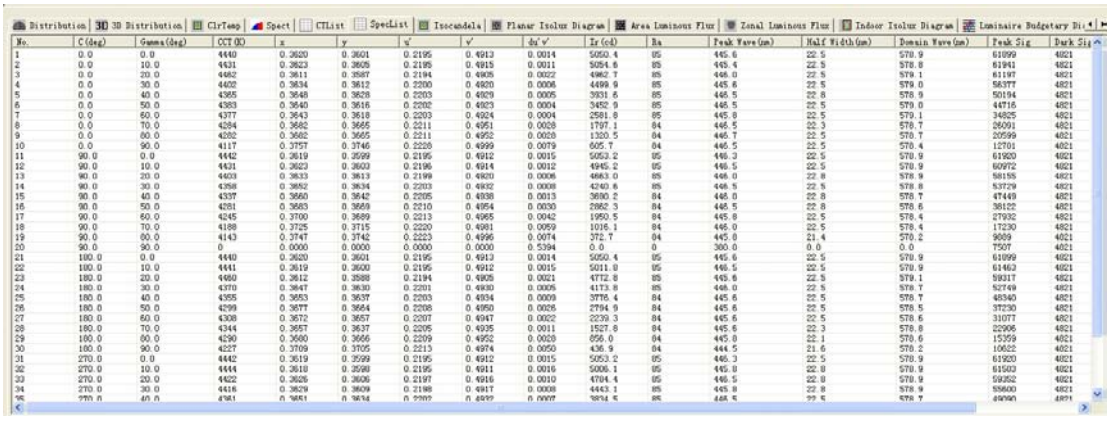
- **CCT 色温参数表格:**



ℓ 频谱颜色空间分布：



ℓ 频谱颜色参数表格：



The Next Page is the Test Report by the software

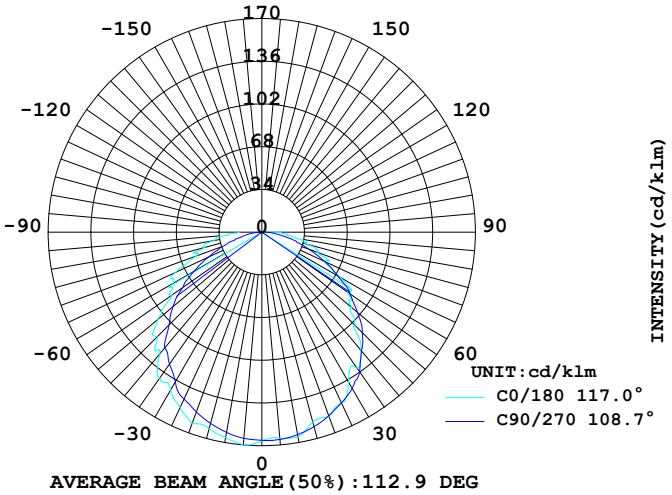
STREETLIGHT PHOTOMETRIC TEST REPORT

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

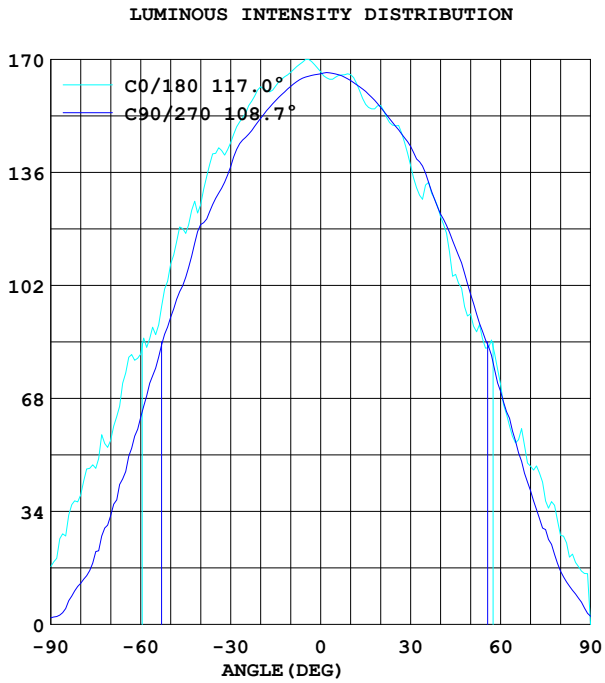
MODEL:	OSRAM	Imax(cd/klm):	170.2	Effictive Flux(lm):	487.0
NOMINAL POWER(W):	56	MAXIMUM(C, γ):	0, 4.0	EEI	1.298
RATED VOLTAGE(V):	220	EFFICIENCY(%):	49.3	Voltage(V)	220.0
NOMINAL FLUX(lm):	10659.4	η street_up(%):	0.0	Current(A)	0.264
TEST FLUX(lm):	10659	η street_down(%):	24.4	Power(W)	56.16
LAMPS QUANTITY:	1	η house_up(%)	0.0	Power Factor	0.966
TOTAL FLUX(lm/klm):	493.1	η house_down(%):	24.9	EEFICIENCY(lm/W)	8.8

INTENSITY DISTRIBUTION DIAGRAM
IN C PLANS



AVERAGE BEAM ANGLE(50%):112.9 DEG

INTENSITY DISTRIBUTION DIAGRAM
IN C PLANS



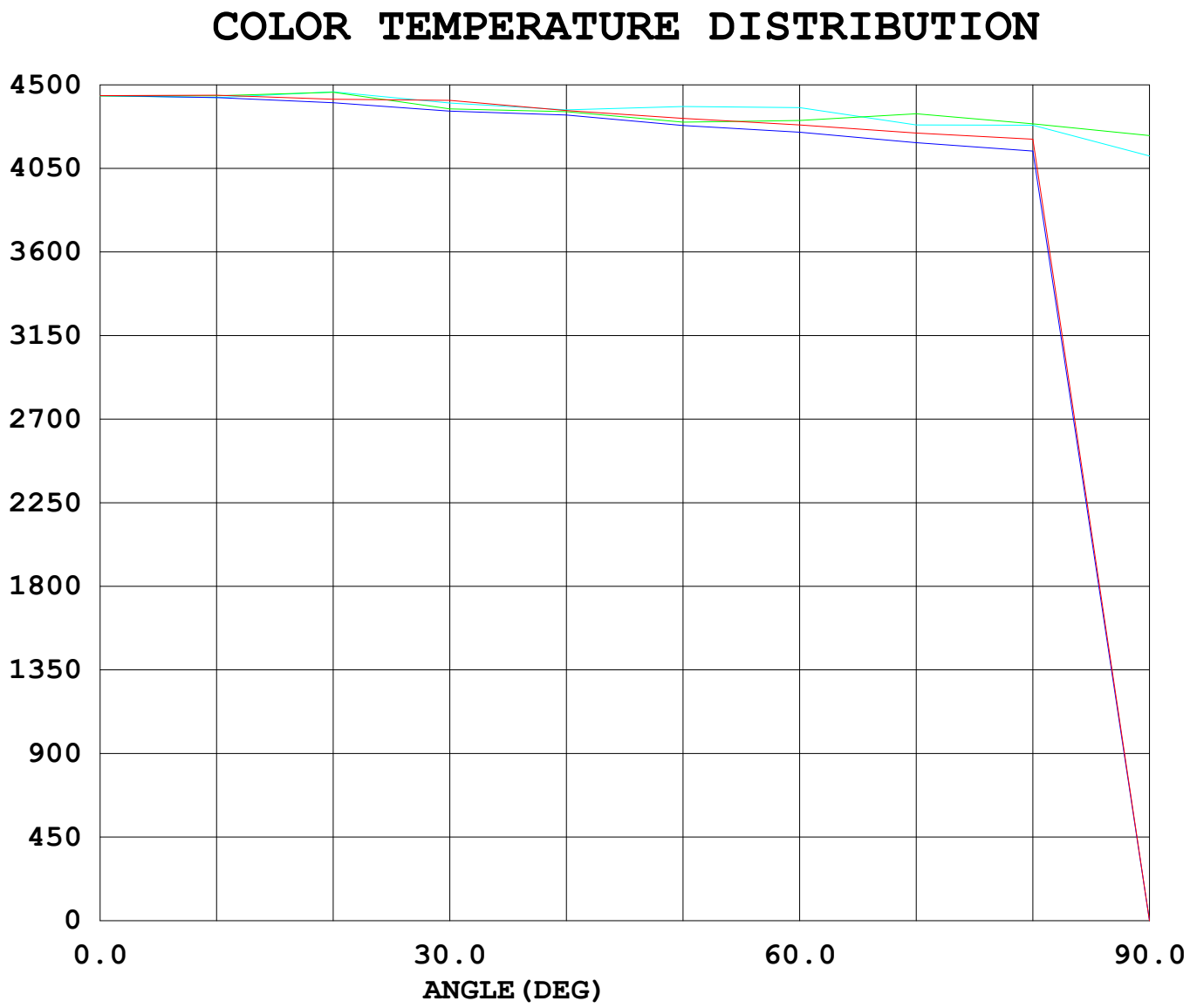
Test System:LSG-1800
Temperature:25.3DEG
Operators:
Test Date:2014-05-02

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.060 m
Remarks:

Color Temperature Distrib

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

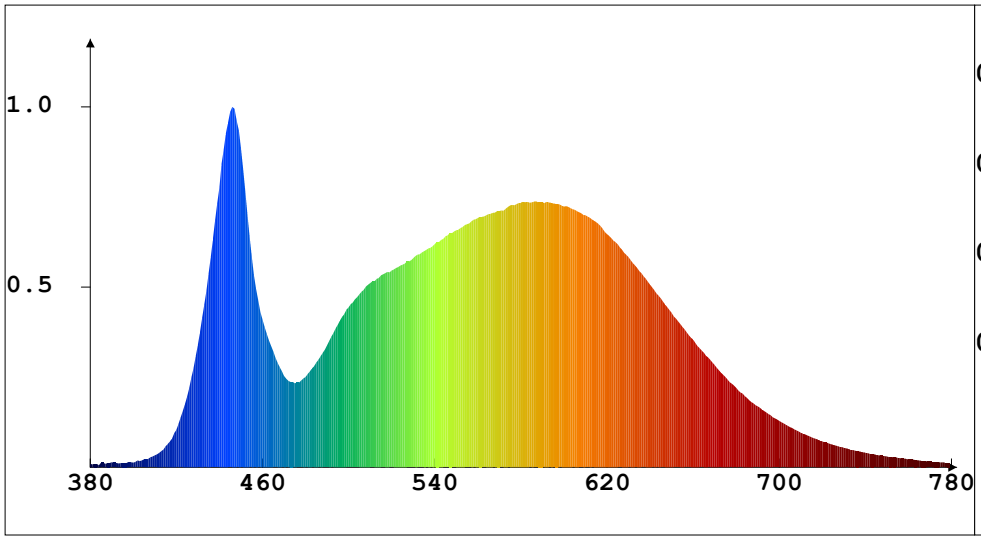


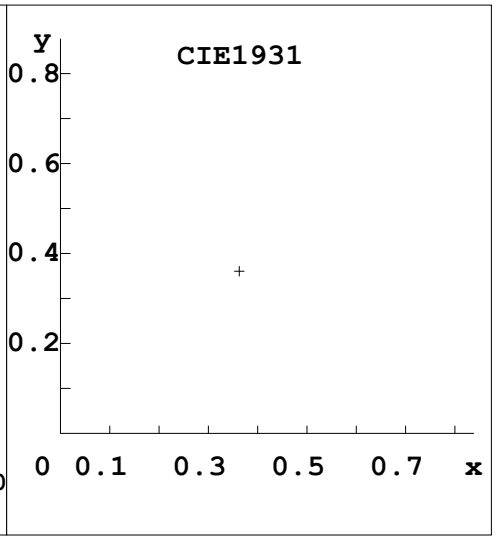
Test System:LSG-1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:11.060 m
Test Date:2014-05-02 Remarks:

Spectrum Chart

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01





Current Angle: C=0.0° G=0.0°

Avg Chro. Para.

CCT: 4388K Chro. Coor.: xa=0.3640 ya=0.3623 u'a=0.2200 v'a=0.4926 Δu'v'=0.0000

Chroma Parameters

Chro.Coor.: x=0.3620 y=0.3601 u'=0.2195 v'=0.4913 duv=-0.0021

CCT: 4440K Dominant Wave: 578.9nm Purity: 16.7% Light Intensity: 5050.4cd

Flux RGB Ratio: R=17.5%,G=80.0%,B=2.5% Peak Wave: 445.6nm Half Width: 22.5nm

Rendering Index: Ra= 84.9

R1 =84	R2 =88	R3 =91	R4 =86	R5 =85	R6 =84	R7 =88	R8 =73
R9 =26	R10=72	R11=86	R12=70	R13=85	R14=95	R15=80	

Instrument State

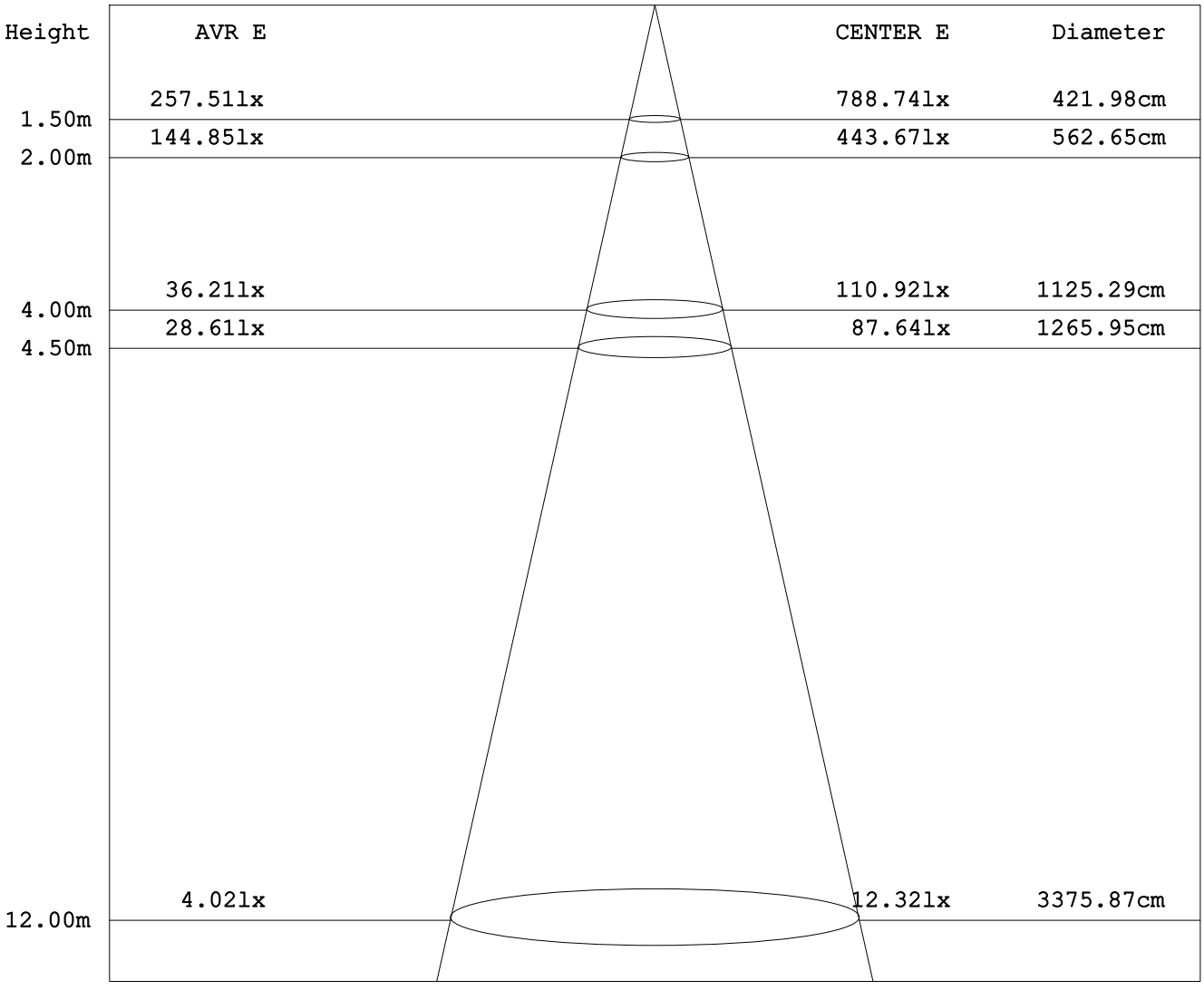
Scan Range: 380nm-780nm Integral Time: 2040.0mS Peak Signal: 61899 Dark Signal: 4821

Test System:LSG-1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:11.060 m
Test Date:2014-05-02 Remarks:

AVERAGE AND CENTER E Figure

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01



Angle:109.2deg

Test System:LSG-1800
Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG
Humidity:65.0%
Operators:
Test Distance:11.060 m
Test Date:2014-05-02
Remarks:

ZONAL FLUX DIAGRAM

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	zone	total
5.0	170.2	169.0	164.9	162.7	164.8	164.1	165.8	169.4	0- 5	3.975	3.975
10.0	166.3	166.4	162.0	163.0	165.6	164.9	163.8	167.3	5- 10	11.86	15.84
15.0	162.2	161.2	157.8	160.3	156.6	162.6	160.5	162.8	10- 15	19.32	35.16
20.0	161.9	155.5	152.4	150.2	156.4	153.6	155.8	158.1	15- 20	26.01	61.18
25.0	153.9	149.7	146.7	144.7	150.2	148.6	150.0	153.0	20- 25	31.90	93.08
30.0	145.2	144.3	137.9	138.5	138.2	143.3	144.0	148.7	25- 30	37.21	130.2
35.0	141.8	133.5	128.3	131.9	132.3	138.1	136.0	137.8	30- 35	40.70	171.0
40.0	126.4	121.6	120.4	116.3	122.8	121.2	123.5	128.5	35- 40	43.12	214.1
45.0	117.8	117.1	104.6	108.8	105.4	114.0	113.3	121.6	40- 45	43.50	257.6
50.0	108.6	98.18	92.57	95.63	93.57	105.3	99.53	106.2	45- 50	43.22	300.8
55.0	87.30	91.34	77.19	76.12	83.20	85.16	85.67	92.75	50- 55	40.11	340.9
60.0	81.51	73.14	62.49	64.45	72.22	70.57	70.19	84.11	55- 60	36.60	377.5
65.0	75.75	57.91	46.08	58.72	54.68	63.33	55.26	63.43	60- 65	31.82	409.3
70.0	55.48	52.44	32.80	39.18	47.64	46.02	40.30	53.62	65- 70	26.86	436.2
75.0	47.01	36.12	21.96	31.39	37.20	37.19	28.57	43.87	70- 75	21.58	457.8
80.0	39.07	27.56	12.41	22.09	26.86	27.48	16.10	32.48	75- 80	16.50	474.3
85.0	26.65	18.07	4.819	12.51	18.65	19.49	9.203	24.53	80- 85	11.65	485.9
90.0	17.44	9.972	2.008	8.549	0	10.76	2.490	15.14	85- 90	7.162	493.1
95.0									90- 95		
100.0									95-100		
105.0									100-105		
110.0									105-110		
115.0									110-115		
120.0									115-120		
125.0									120-125		
130.0									125-130		
135.0									130-135		
140.0									135-140		
145.0									140-145		
150.0									145-150		
155.0									150-155		
160.0									155-160		
165.0									160-165		
170.0									165-170		
175.0									170-175		
180.0									175-180		
DEG	LUMINOUS INTENSITY:cd/klm									UNIT:lm/klm	

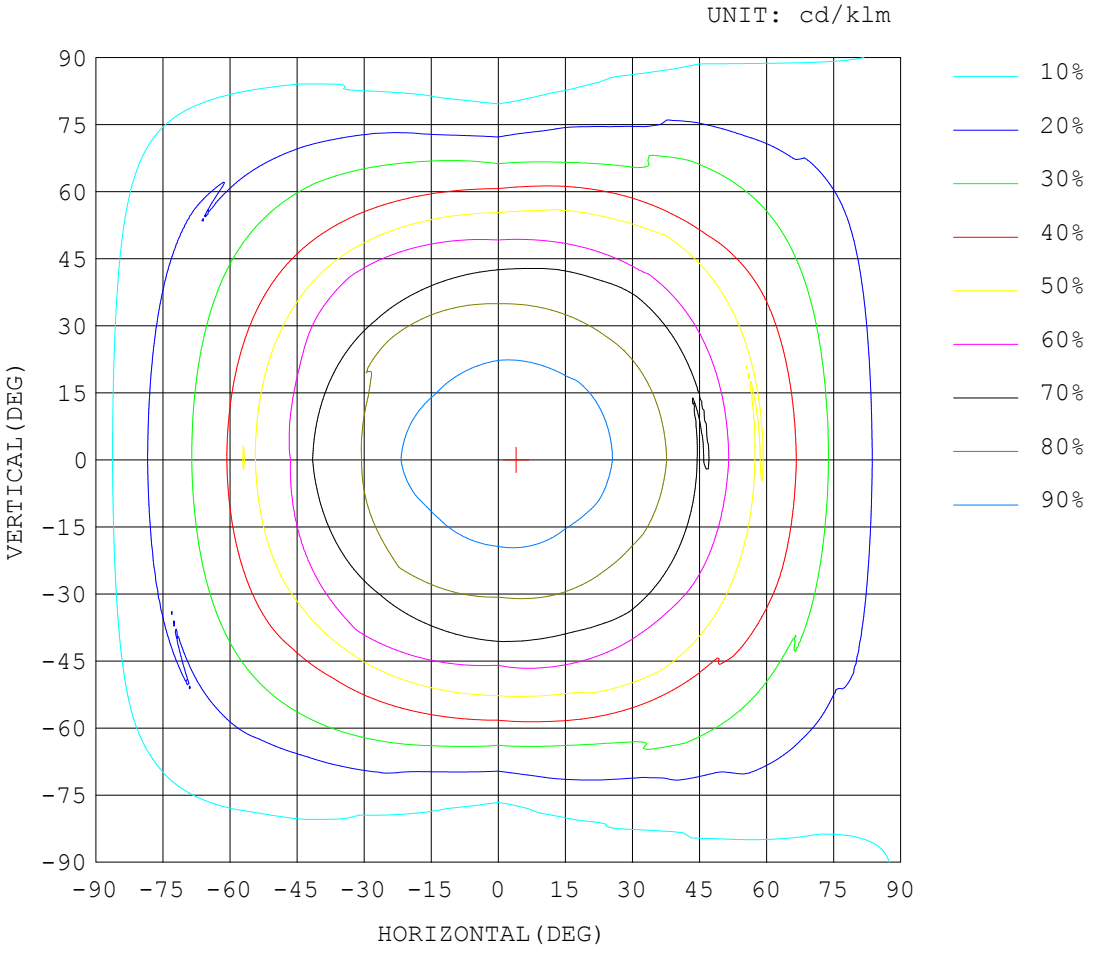
Test System:LSG-1800
Temperature:25.3DEG
Operators:
Test Date:2014-05-02

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.060 m
Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01



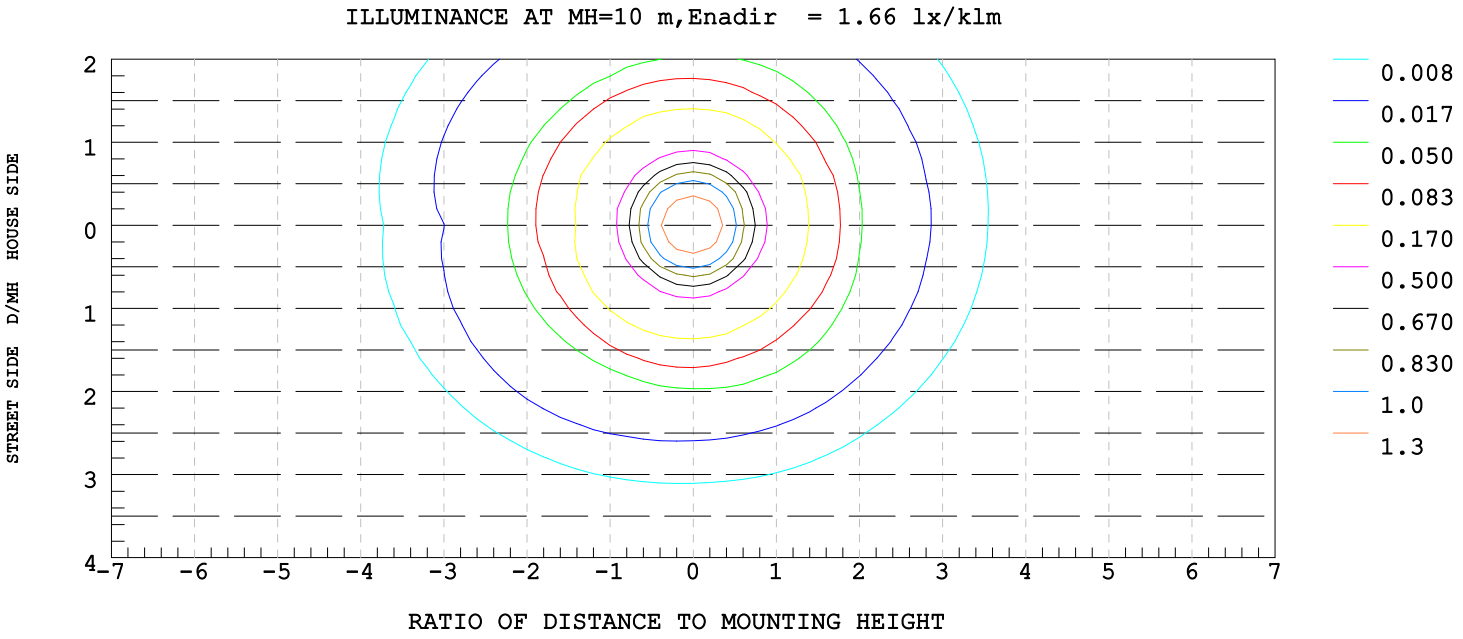
Test System:LSG-1800
Temperature:25.3DEG
Operators:
Test Date:2014-05-02

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.060 m
Remarks:

ISOLUX DIAGRAM

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

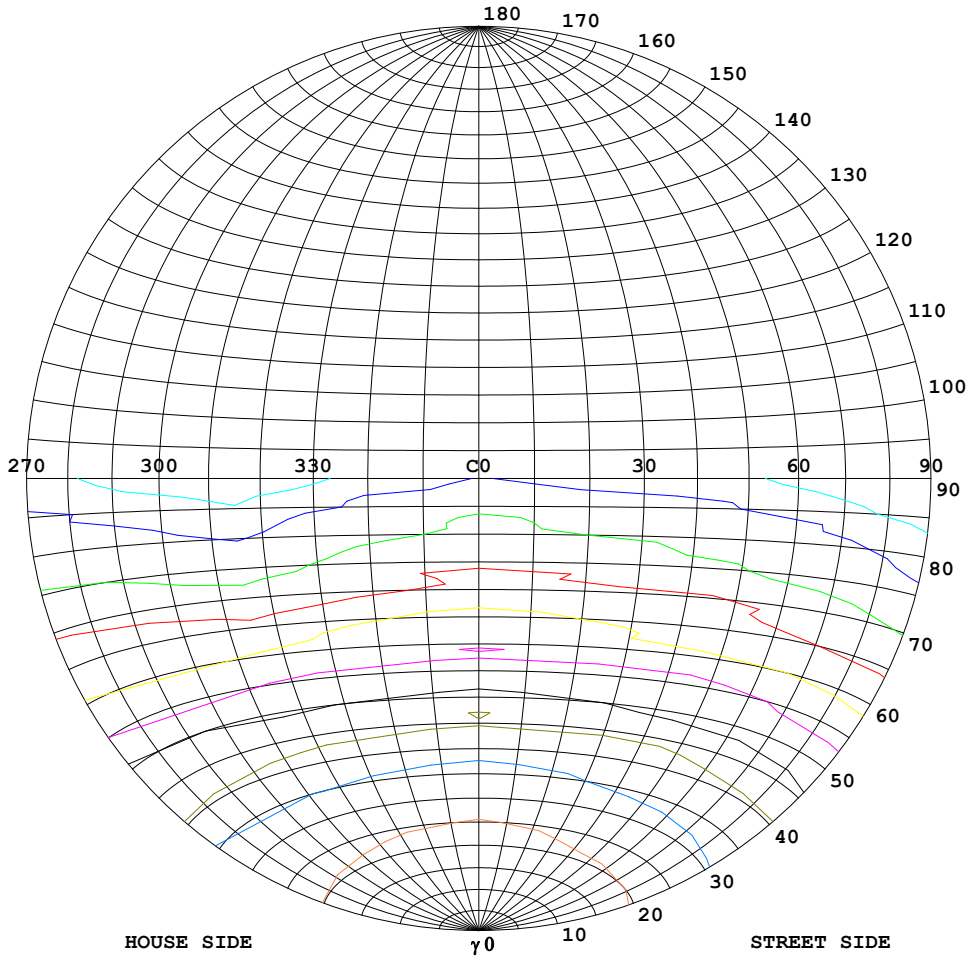


Test System:LSG-1800
Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG
Humidity:65.0%
Operators:
Test Distance:11.060 m
Test Date:2014-05-02
Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

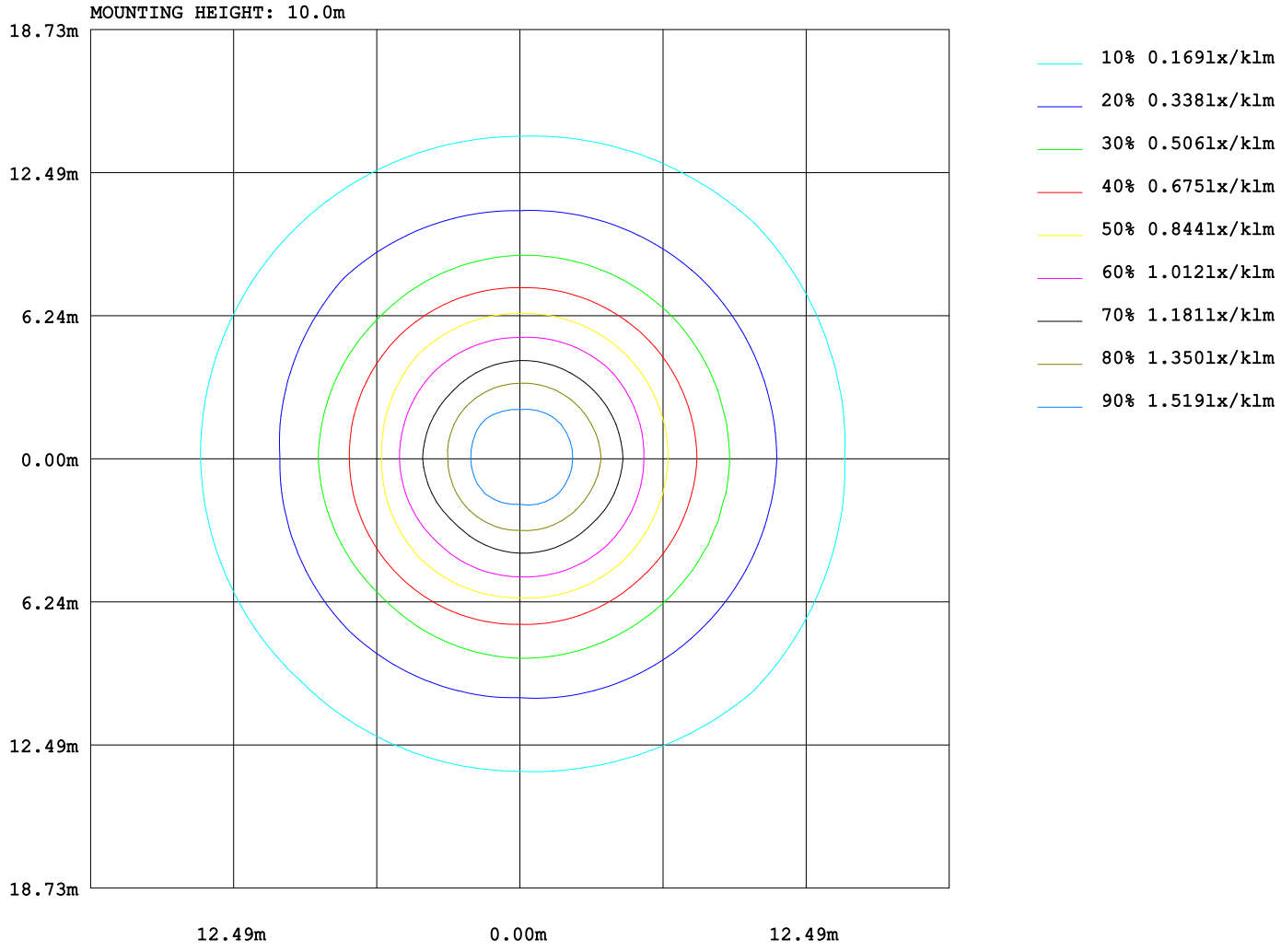


Test System:LSG-1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:11.060 m
Test Date:2014-05-02 Remarks:

ISOLUX DIAGRAM

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01



Test System:LSG-1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:11.060 m
Test Date:2014-05-02 Remarks:

ISOCANDELA DIAGRAM

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

Test System:LSG-1800
Temperature:25.3DEG
Operators:
Test Date:2014-05-02

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.060 m
Remarks:

AREA LUMINOUS FLUX

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

AREA FLUX DIAGRAM — UNIT:lm/klm

VERTICAL(DEG)	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL(DEG) 20	30	40	50	60	70	80	90	Φ t	Φ a
90																		
80	0.02	0.10	0.17	0.26	0.33	0.37	0.37	0.35	0.30	0.32	0.41	0.46	0.49	0.46	0.37	0.26	0.15	0.05	5.25	2.64
70	0.04	0.14	0.27	0.43	0.60	0.73	0.82	0.87	0.87	0.90	0.95	0.94	0.86	0.73	0.56	0.38	0.20	0.05	10.3	10.2
60	0.04	0.17	0.37	0.62	0.89	1.20	1.45	1.62	1.68	1.69	1.64	1.49	1.31	1.08	0.76	0.48	0.25	0.06	16.8	16.8
50	0.05	0.20	0.47	0.82	1.29	1.67	2.04	2.38	2.57	2.60	2.51	2.25	1.84	1.34	0.96	0.59	0.28	0.07	23.9	23.9
40	0.05	0.24	0.56	1.02	1.52	2.16	2.81	3.19	3.40	3.43	3.27	2.89	2.36	1.77	1.14	0.67	0.32	0.07	30.9	30.9
30	0.05	0.27	0.65	1.15	1.86	2.67	3.24	3.78	4.06	4.08	3.85	3.44	2.82	2.03	1.36	0.75	0.35	0.08	36.5	36.5
	0.05	0.29	0.70	1.31	2.11	2.90	3.73	4.26	4.51	4.55	4.35	3.83	3.13	2.30	1.48	0.83	0.37	0.08	40.8	40.8
	0.06	0.31	0.73	1.43	2.22	3.18	3.95	4.49	4.84	4.86	4.60	4.10	3.34	2.49	1.56	0.90	0.39	0.09	43.5	43.5
	0.06	0.32	0.75	1.48	2.29	3.25	4.08	4.66	4.99	5.07	4.76	4.22	3.45	2.57	1.60	0.94	0.39	0.09	45.0	45.0
	0.06	0.32	0.74	1.46	2.27	3.23	4.06	4.63	4.96	5.05	4.74	4.20	3.43	2.55	1.59	0.93	0.39	0.09	44.7	44.7
	0.06	0.31	0.72	1.40	2.17	3.12	3.87	4.40	4.75	4.78	4.52	4.03	3.27	2.44	1.53	0.89	0.38	0.09	42.7	42.7
-30	0.05	0.29	0.67	1.27	2.01	2.82	3.60	4.11	4.39	4.44	4.22	3.70	3.03	2.21	1.43	0.82	0.36	0.08	39.5	39.5
-40	0.05	0.26	0.61	1.10	1.74	2.50	3.10	3.62	3.87	3.89	3.69	3.28	2.67	1.94	1.28	0.73	0.34	0.08	34.8	34.7
-50	0.05	0.23	0.53	0.95	1.42	1.96	2.57	2.97	3.18	3.22	3.06	2.69	2.21	1.61	1.09	0.64	0.31	0.07	28.7	28.7
-60	0.04	0.19	0.44	0.74	1.14	1.52	1.85	2.16	2.34	2.38	2.28	2.02	1.62	1.26	0.89	0.54	0.27	0.07	21.7	21.7
-70	0.04	0.15	0.34	0.55	0.77	1.01	1.24	1.39	1.44	1.46	1.44	1.34	1.18	0.95	0.67	0.44	0.23	0.06	14.7	14.7
-80	0.04	0.12	0.23	0.36	0.50	0.60	0.67	0.70	0.68	0.70	0.76	0.76	0.71	0.62	0.49	0.34	0.18	0.05	8.52	7.91
-90	0.02	0.09	0.15	0.21	0.25	0.27	0.27	0.25	0.21	0.22	0.29	0.34	0.36	0.34	0.29	0.22	0.13	0.05	3.96	0.82
Φ t	0.83	3.98	9.09	16.6	25.4	35.2	43.7	49.8	53.1	53.7	51.4	46.0	38.1	28.7	19.1	11.3	5.30	1.26	493	
Φ a	0.50	3.60	8.70	16.1	25.0	34.7	43.2	49.2	52.4	53.0	50.8	45.6	37.8	28.5	18.9	11.2	5.21	1.25		487

Test System:LSG-1800
Temperature:25.3DEG
Operators:
Test Date:2014-05-02

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.060 m
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

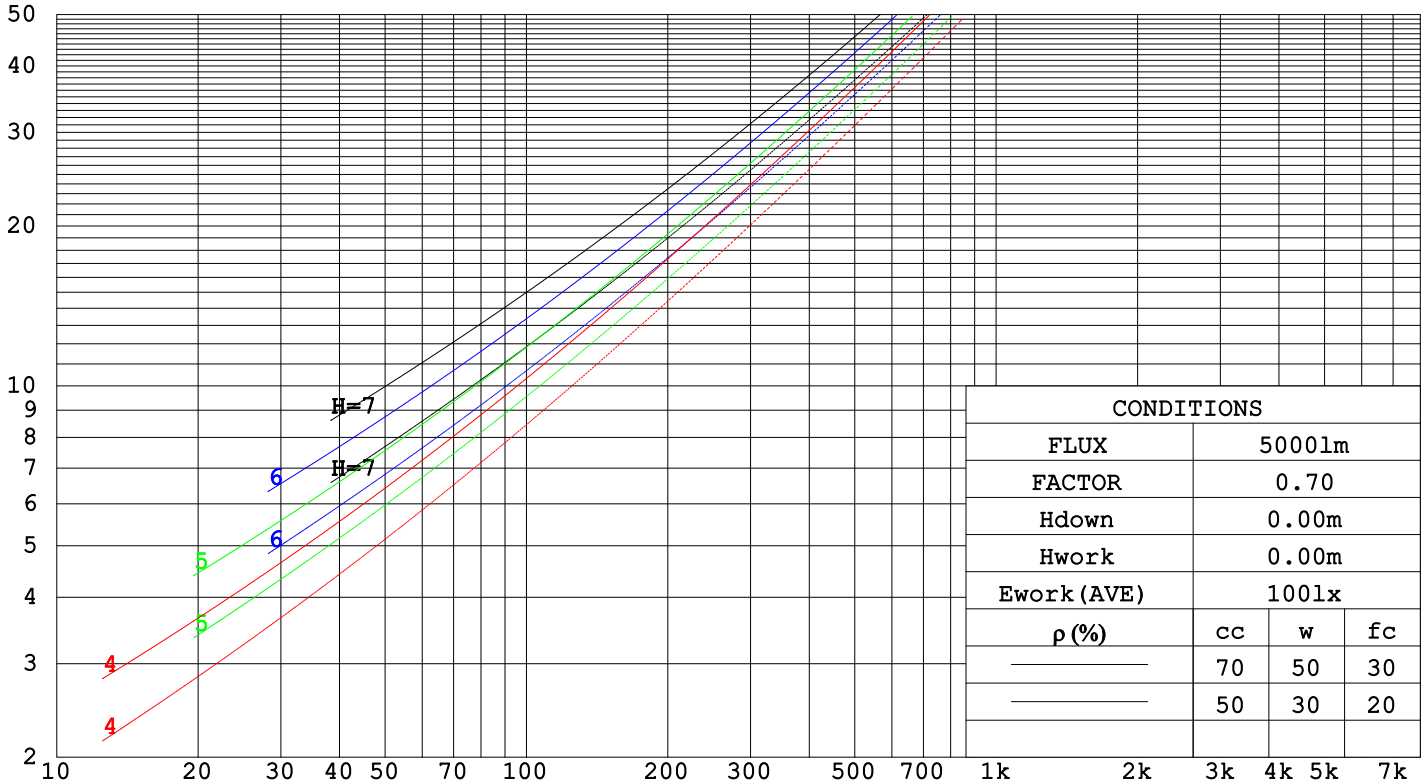
Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	.59	.59	.59	.57	.57	.57	.55	.55	.55	.52	.52	.52	.50	.50	.50	.49
1.0	.51	.48	.46	.50	.47	.46	.47	.46	.44	.45	.44	.43	.44	.43	.41	.40
2.0	.44	.40	.37	.43	.40	.37	.41	.39	.36	.40	.37	.35	.38	.36	.35	.33
3.0	.39	.34	.31	.38	.34	.31	.36	.33	.30	.35	.32	.30	.34	.31	.29	.28
4.0	.34	.30	.26	.33	.29	.26	.32	.29	.26	.31	.28	.25	.30	.27	.25	.24
5.0	.30	.26	.23	.30	.26	.22	.29	.25	.22	.28	.25	.22	.27	.24	.22	.21
6.0	.27	.23	.20	.27	.23	.20	.26	.22	.19	.25	.22	.19	.24	.21	.19	.18
7.0	.25	.20	.17	.24	.20	.17	.24	.20	.17	.23	.20	.17	.22	.19	.17	.16
8.0	.23	.18	.15	.22	.18	.15	.22	.18	.15	.21	.18	.15	.20	.17	.15	.14
9.0	.21	.17	.14	.21	.17	.14	.20	.16	.14	.19	.16	.14	.19	.16	.14	.13
10.0	.19	.15	.13	.19	.15	.13	.18	.15	.13	.18	.15	.12	.18	.15	.12	.12

LAMPS

LUMINAIRE BUDGETARY DIAGRAM



CONDITIONS			
FLUX	50001m		
FACTOR	0.70		
Hdown	0.00m		
Hwork	0.00m		
Ework(AVE)	1001x		
ρ(%)	cc	w	fc
————	70	50	30
————	50	30	20

Test System:LSG-1800
Temperature:25.3DEG
Operators:
Test Date:2014-05-02

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.060 m
Remarks:

WEC AND CCEC

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Wall Exitance Coeffcients(WEC)												
0.0																
1.0	.164	.093	.030	.160	.091	.029	.154	.088	.028	.148	.085	.027	.142	.082	.027	
2.0	.150	.082	.025	.147	.081	.025	.141	.078	.024	.135	.076	.024	.131	.074	.023	
3.0	.137	.073	.022	.134	.072	.022	.129	.070	.021	.124	.068	.021	.120	.066	.021	
4.0	.125	.065	.019	.123	.064	.019	.118	.063	.019	.114	.061	.018	.110	.060	.018	
5.0	.115	.059	.017	.113	.058	.017	.109	.057	.017	.105	.056	.017	.102	.054	.016	
6.0	.107	.053	.015	.105	.053	.015	.101	.052	.015	.098	.051	.015	.095	.050	.015	
7.0	.099	.049	.014	.097	.049	.014	.094	.048	.014	.091	.047	.014	.088	.046	.013	
8.0	.092	.045	.013	.091	.045	.013	.088	.044	.013	.085	.043	.012	.083	.043	.012	
9.0	.087	.042	.012	.085	.042	.012	.083	.041	.012	.080	.040	.011	.078	.040	.011	
10.0	.081	.039	.011	.080	.039	.011	.078	.038	.011	.076	.038	.011	.073	.037	.011	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.094	.094	.094	.080	.080	.080	.055	.055	.055	.031	.031	.031	.010	.010	.010	
1.0	.090	.077	.065	.077	.066	.056	.052	.045	.039	.030	.026	.023	.010	.008	.007	
2.0	.086	.065	.048	.073	.056	.041	.050	.039	.029	.029	.023	.017	.009	.007	.005	
3.0	.082	.056	.036	.070	.049	.031	.048	.034	.022	.028	.020	.013	.009	.006	.004	
4.0	.078	.050	.028	.067	.043	.025	.046	.030	.017	.027	.018	.010	.009	.006	.003	
5.0	.074	.045	.023	.064	.039	.020	.044	.027	.014	.025	.016	.008	.008	.005	.003	
6.0	.071	.041	.019	.061	.035	.017	.042	.025	.012	.024	.014	.007	.008	.005	.002	
7.0	.067	.037	.016	.058	.032	.014	.040	.023	.010	.023	.013	.006	.007	.004	.002	
8.0	.064	.034	.014	.055	.030	.012	.038	.021	.009	.022	.012	.005	.007	.004	.002	
9.0	.061	.032	.012	.052	.028	.011	.036	.019	.008	.021	.011	.005	.007	.004	.002	
10.0	.058	.030	.011	.050	.026	.010	.035	.018	.007	.020	.011	.004	.007	.004	.001	

Test System:LSG-1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:11.060 m
Test Date:2014-05-02 Remarks:

Uncorrected UGR Table

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	14.7	16.2	14.9	16.4	16.6	13.7	15.3	14.0	15.5	15.7
3H	16.5	17.9	16.8	18.2	18.4	14.9	16.3	15.2	16.6	16.8
4H	17.5	18.9	17.8	19.1	19.4	15.3	16.7	15.6	16.9	17.2
6H	18.5	19.8	18.9	20.1	20.4	15.6	16.9	15.9	17.2	17.4
8H	19.1	20.4	19.5	20.6	20.9	15.7	16.9	16.0	17.2	17.5
12H	19.6	20.8	20.0	21.1	21.5	15.7	16.9	16.1	17.2	17.5
4H 2H	15.2	16.5	15.5	16.8	17.1	14.5	15.8	14.8	16.1	16.3
3H	17.3	18.5	17.6	18.8	19.1	15.9	17.1	16.3	17.4	17.7
4H	18.4	19.5	18.8	19.8	20.1	16.5	17.6	16.9	17.9	18.2
6H	19.6	20.6	20.0	21.0	21.3	16.9	17.9	17.3	18.2	18.6
8H	20.3	21.2	20.7	21.6	22.0	17.1	18.0	17.5	18.4	18.8
12H	21.0	21.8	21.4	22.2	22.6	17.2	18.0	17.6	18.4	18.8
8H 4H	18.7	19.6	19.1	19.9	20.3	17.0	17.9	17.4	18.3	18.7
6H	20.1	20.9	20.5	21.3	21.7	17.7	18.5	18.1	18.9	19.3
8H	21.0	21.7	21.4	22.1	22.5	18.0	18.7	18.5	19.1	19.6
12H	21.8	22.4	22.3	22.8	23.3	18.2	18.8	18.7	19.3	19.8
12H 4H	18.7	19.5	19.1	19.9	20.3	17.1	18.0	17.6	18.4	18.8
6H	20.2	20.9	20.6	21.3	21.8	17.9	18.6	18.4	19.0	19.5
8H	21.1	21.7	21.6	22.2	22.7	18.4	19.0	18.8	19.4	19.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.3 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 1000 lm Total Lamp Luminous Flux.(8log(F/F0) = 0.0)

Test System:LSG-1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:11.060 m
Test Date:2014-05-02 Remarks:

UTILIZATION FACTORS TABLE

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	28	22	19	28	22	19	27	22	19	15
0.80	33	27	23	32	27	23	32	27	23	20
1.00	37	31	28	36	31	28	35	32	27	24
1.25	40	35	32	40	35	31	38	34	31	27
1.50	43	38	34	42	37	34	41	37	34	30
2.00	46	42	39	45	41	38	44	40	37	34
2.50	48	44	41	47	44	41	45	42	40	36
3.00	50	46	43	49	46	43	47	44	42	38
4.00	52	49	46	51	48	46	49	46	44	40
5.00	53	51	48	52	50	48	50	48	46	42
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

Test System:LSG-1800 Test Set: 5.0deg/s C-Gamma (TYPE C)
Temperature:25.3DEG Humidity:65.0%
Operators: Test Distance:11.060 m
Test Date:2014-05-02 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Report number:

MANUFACTURER:	Address:	
NAME: LED Street Lamp	TYPE:LED-L120W	WEIGHT:8kg
SPECIFICATION:120W	DIMENSION: 750*350*85	SERIAL No.:LED-L120W-01

UNIT: cd/klm

γ (DEG) \ C(DEG)	0	45	90	135	180	225	270	315
0.0	166	166	166	166	166	166	166	166
5.0	170	169	165	163	165	164	166	169
10.0	166	166	162	163	166	165	164	167
15.0	162	161	158	160	157	163	161	163
20.0	162	156	152	150	156	154	156	158
25.0	154	150	147	145	150	149	150	153
30.0	145	144	138	139	138	143	144	149
35.0	142	134	128	132	132	138	136	138
40.0	126	122	120	116	123	121	124	129
45.0	118	117	105	109	105	114	113	122
50.0	109	98.1	92.5	95.6	93.5	105	99.5	106
55.0	87.3	91.3	77.1	76.1	83.2	85.1	85.6	92.7
60.0	81.5	73.1	62.4	64.4	72.2	70.5	70.1	84.1
65.0	75.7	57.9	46.0	58.7	54.6	63.3	55.2	63.4
70.0	55.4	52.4	32.8	39.1	47.6	46.0	40.3	53.6
75.0	47.0	36.1	21.9	31.3	37.2	37.1	28.5	43.8
80.0	39.0	27.5	12.4	22.0	26.8	27.4	16.1	32.4
85.0	26.6	18.0	4.81	12.5	18.6	19.4	9.20	24.5
90.0	17.4	9.97	2.00	8.54	0.00	10.7	2.49	15.1

Test System:LSG-1800
Temperature:25.3DEG
Operators:
Test Date:2014-05-02

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:11.060 m
Remarks: