LISUN GROUP

移动探头分布式光度计

(LSG-5000)

Brochure

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Lead in CFL & LED Test Instruments

Rev. 1/29/2019

1. 系统配置

报价包括以下项目：

A. LSG-5000 角光度系统：

- 测角旋转控制台：采用日本三菱电机和德国角度解码器系统保持测试精度。远场测试和近场测试均可。
- 高反光率透镜：特殊设计制造，以确保高反光率。
- 光度计旋转控制器：与电脑连接，由软件控制。
- 放置在暗室中的旋转控制器：方便客户在暗室装光源时控制旋转，而无需电脑控制。
- 双通道，高精度光度计
- 德国产 Class L 恒温光探头
- 十字激光对准系统用于校准
- 中英文软件
- 自动可调光阑：根据不同的光源尺寸可远程控制调节光阑尺寸
- 两套夹具：两套多功能夹具
- 木质包装箱

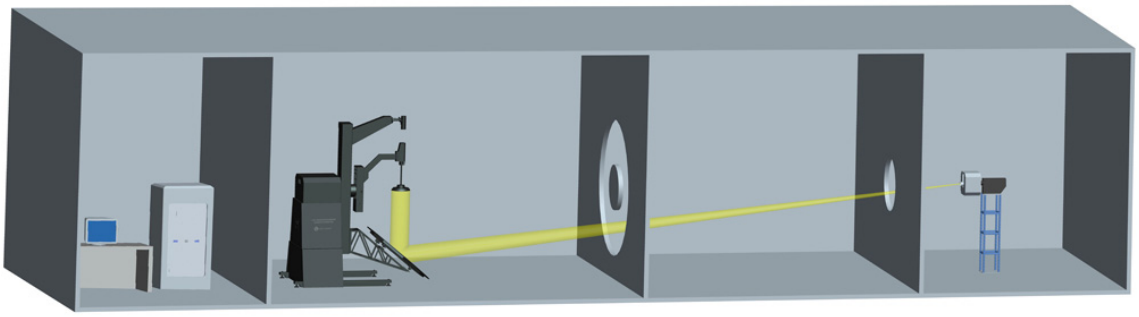
B. SLS-150W 直流光强标准光源

C. LS2010 数字电参数测量仪：高精度测量交直流电压，电流，功率，功率因素，谐波。

D. DC3010 直流稳压稳流电源：30V/10A 恒流恒压直流输出；可选 DC6010（输出 60V/10A）和 DC12010（输出 120V/10A）

E. LSP-1KVAR 交流电源：1000W 纯正弦波交流稳压电源

F. CASE-19IN 19 英寸标准机柜



LSG-5000 移动探头分布式光度计示意图

注意：电脑及打印机需客户自行准备，要求至少有一个 USB 接口。

2. 测试原理：

LSG-5000 移动探头立式分布式光度计完全满足 LM-79 Clause 9.3.1 标准要求。测试时，

灯具燃点位置保持绝对静止，近场探头、灯具、反光镜在同一条线上。测试过程中，近场探头跟反光镜会围绕灯具做圆周运动，远场探头与反光镜同步旋转。

仪器的转动由软件控制。如果镜子旋转轴优先旋转，则分布光度计会持续测试 C 角度决定的垂直平面上每一个 Y 角度的光强，测试微量相当于经度。同理，如果被测灯旋转轴优先，系统则会持续测试取决于 Y 角度的锥形面上每个 C 平面的光强。微量被看成是纬度，测试原理如下图：

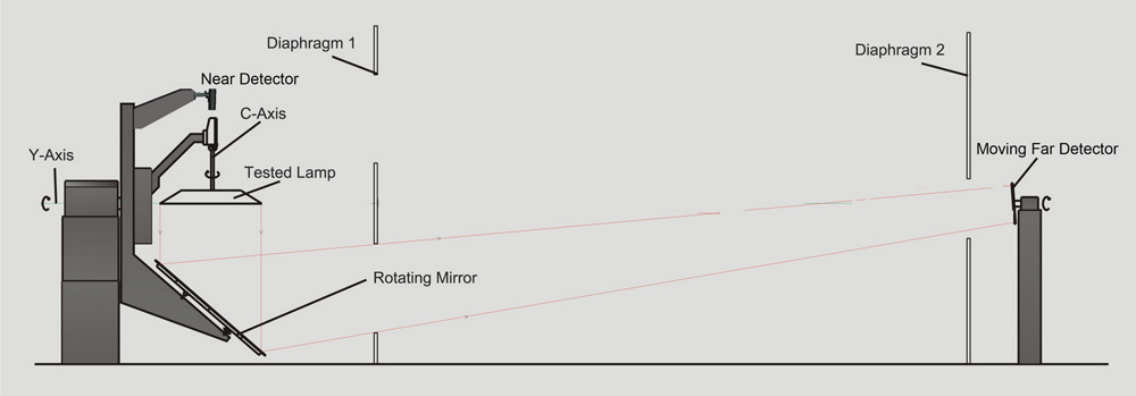


Figure 测试原理

3. 系统功能

LSG-5000 移动探头分布式光度计

LSG-5000 满足 LM-79 9.3.1 条款，CIE 和 GB 等关于光参数的测试。这套系统用于测试泛光灯、路灯和室内的灯具的空间光强分布、等光强曲线、各区域的光强分布曲线（以直角坐

标系或极坐标系表示)、等照度曲线、亮度限制曲线、光效、眩光等级、有效光束角、上射光通量比、下射光通量比、总光通量、有效光通量、利用系数和电参数（电流，电压，功率，功率因素)。测试数据可以保存为 IES、LDT、CIB、TM4、CIE、CEN 和 CSV 格式，以便直接用于相关照明设计软件。






LSG-5000 能测试以上所有灯具

4. 技术参数

1) 被测光源绕反光镜旋转角度(γ)±180°(或 0-360°)，被测光源绕自身旋转角度(C)±180°(or 0-360°)
2) 角度精度：0.05°；角度分辨率：0.001°
3) 光度测试范围：照度 0.001lx~99,999lx；光强 1.0cd～10^7cd(探头)
4) 光度精度：德国产恒温光探头 DIN5032-6/CIE pub1. No. 69 Class L
5) 测试精度：2%(在标准灯下)；杂散光：小于 0.1%
6) 软件可运行在 Win7，Win8 或 Win10 系统下

型号	LSG-5000B (大型)	LSG-5000 (中型)	LSG-5000S (小型)
可测灯具尺寸 (mm)	1600	1400	900
最大可测重量 (KG)	50	40	30
最大可测功率 (W)	600V/10A，AC/DC	600V/10A，AC/DC	600V/10A，AC/DC

注意：LSG-5000X 可根据客户需求定制尺寸

5. 实验室要求

1) **根据 CIE 要求房间尺寸**

型号	暗室 (W*H*L)	操作室(W*L)
LSG-5000B	5*5*8~30m	4*4m
LSG-5000	4*4*8~30m	4*4m
LSG-5000S	4*3*8~30m	4*4m

注意 LSG-5000X 实验室尺寸需要特别设计

*暗室的墙壁，天花板及地板必须用哑光漆喷涂，或者用黑布和黑地毯。

*空调：放置在暗室中以控制灯具周围的温度以达到CIE要求。

注意：客户在下单之后，LISUN GROUP 的工程部门会根据客户实际的实验室空间出一份实验室设计图。

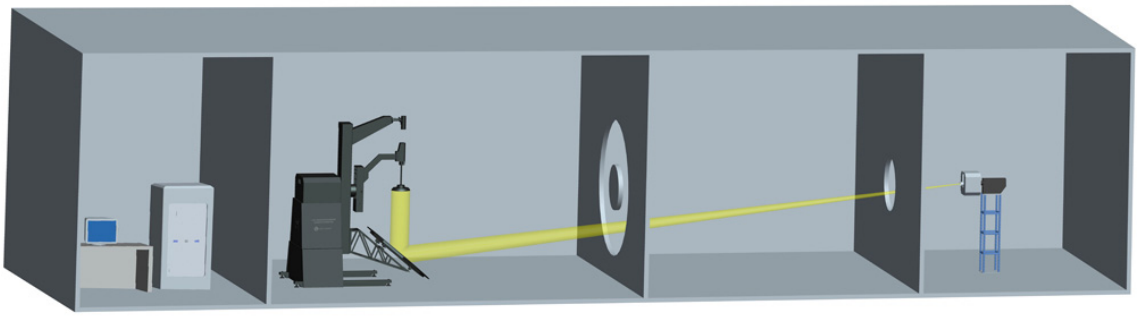
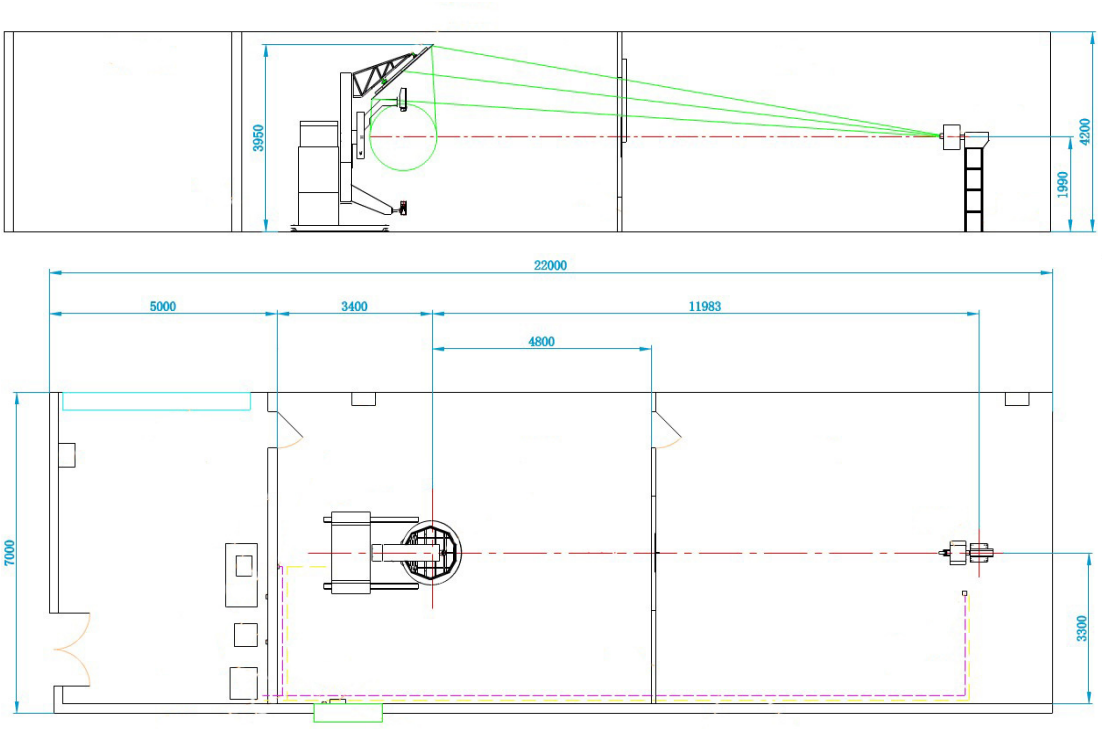


Fig: LSG-5000 暗室示意图



2) 杂光消除要求

在 LSG-5000 系统中，探头只能接收反光镜直接发射的光。 灯具直接发射的光以及墙壁和地板反射的光应该用挡光板挡掉。暗室内表面及光通道中的挡光板应该用哑光漆涂黑或是用黑布，黑地毯盖住。

3) 环境温度

在测试时，灯具周围的温度必须控制在 25℃±1℃，特殊情况可做以下调整：

a. 钨丝白炽灯：25℃±5℃
b. 双端荧光灯：25℃±1℃
c. 高压汞灯：25℃±2℃
d. 金卤灯：25℃±2℃
e. 高压钠灯：25℃±2℃
f. 低压钠灯：25℃±2

4） **空气流动**

自然风，空调或是光源转动会引起光度计周围的空气流动，但是空气流动速度不能超过 0.2m/s。

5） 振动和冲击

当点亮灯具的时候，振动不应该超过 10m/s2(4-3000Hz)， 或者灯具移动范围不能超过 30mm（至少 4Hz）。

6） 烟雾，灰尘及湿度

测试环境应保持无烟，无尘及干燥的环境中。同时，测试中，烟雾，灰尘及潮湿都会影响反光镜反射及减少杂散光。所以，实验室必须保持整洁干净，无烟无尘，干燥。 湿度不应超过 60%RH。

6. 服务

1）**安装与培训**

LISUN GROUP 工程师负责安装仪器及培训使用人员。

2）**质保期：24 个月**

保修期内免费保修，如需上门服务，需要支付差旅费用。

3）**免费升级软件**

7. 仪器设计标准

LSG-5000 设计结构，技术参数，测试操作步骤及软件可满足一下标准要求：

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 Products"
3.6 GB/T 7002-1986,"Luminosity Test of Flood Luminaires"
3.7 GB/T 9467-1988, "Luminosity Test of Indoor Luminaires"
3.8 GB/T 9468-1988, "Luminosity Test of Street Luminaires"
3.9 IES 61341 "Method of Measurement of Center Beam Intensity and Beam Angle(s) of Reflector Lamp"
3.10 CIE Pub.NO.76, "Photometry-the CIE System of Physical Photometry"

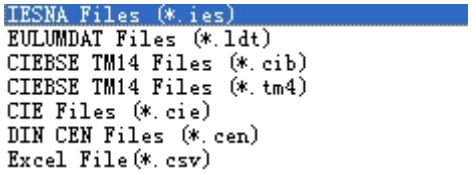
8. 典型海外买家资料

请联系 LISUN 销售部门索取资料。

9. 应用软件

LSG-5000 操作可完全由软件实现，包括光度计的运转，数据的采集及处理，实时显示在电脑屏幕上。可直接打印测试报告，操作更方面，数据更安全。

系统可导出以下格式文件：



以上格式可直接导入相关的照明测试软件，如 DiaLux

应用软件可以实现照明设计要求的基本计算，如在一个工作平面上的等照度分布曲线， 亮度限制曲线，光效，有效光束角，上射光通量比，下射光通量比，有效光通量，利用系数曲线等。

下一页为 LSG-5000 典型测试报告：

Lisun Electronics Inc.
http://www.Lisungroup.com
Tel: +86(21)51083341
Fax: +86(21)51083342

Report No.: LS1127 Test Time: 2017-08-31 13:12

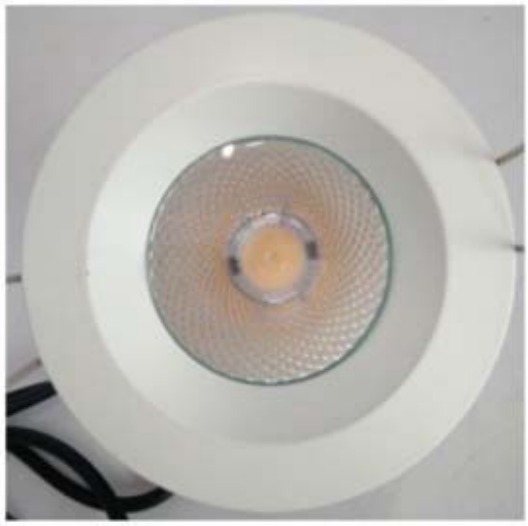
Luminaire Property

Luminaire Manufacturer: W.K.LIGHTING
Luminaire Category: WK-71-83-8077-85-IP65
Lamp Catalog: LUMINUS
Lamp Description: Philips
Number of Lamps: 1
Lumens per Lamp: 700
Luminous Length (mm): 8.5
Luminous Width (mm): 8.5
Luminous Height (mm): 12
Voltage: 220.6 V
Current: 0.071 A
Power: 8.69 W
Power Factor: 0.559

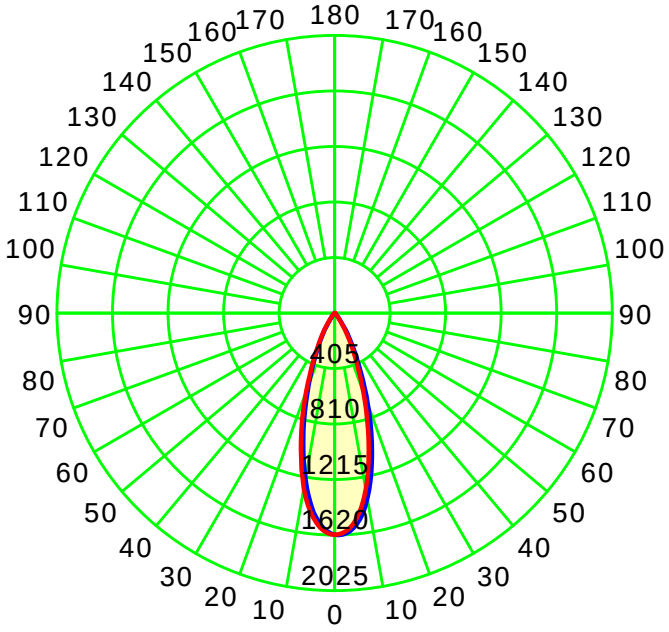
Photometric Results

CIE Class: Direct
Total Rated Lamp Lumens: 700.0 lm
Measurement Flux: 641.8 lm
Efficiency: 91.69%
Downward Ratio: 91.69%
Upward Ratio: 0.00%
Horizontal Diffuse Angle(50%): H34.6
Vertical Diffuse Angle(50%): V34.1
Luminaire Efficacy Rating (LER): 73.91
Central Intensity: 1617.64 cd
Max. Intensity: 1620.79 cd
Pos of Max. Intensity: H22.5 V1
S/MH(C0/C180): 0.57
S/MH(C90/C270): 0.56

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd
Average Diffuse Angle(50%): 34.3°
C0-C180 C90-C270

C Plane (°):0.0-360.0: 22.5
Gamma Plane (°):0.0-90.0:1.0
Test Lab: LISUN
Test Device: LSG-5000
Test Type: TYPE C
Distance: 8.300 m
Temperature: 24.5
Humidity: 60%
Operator: Joye
Inspector:

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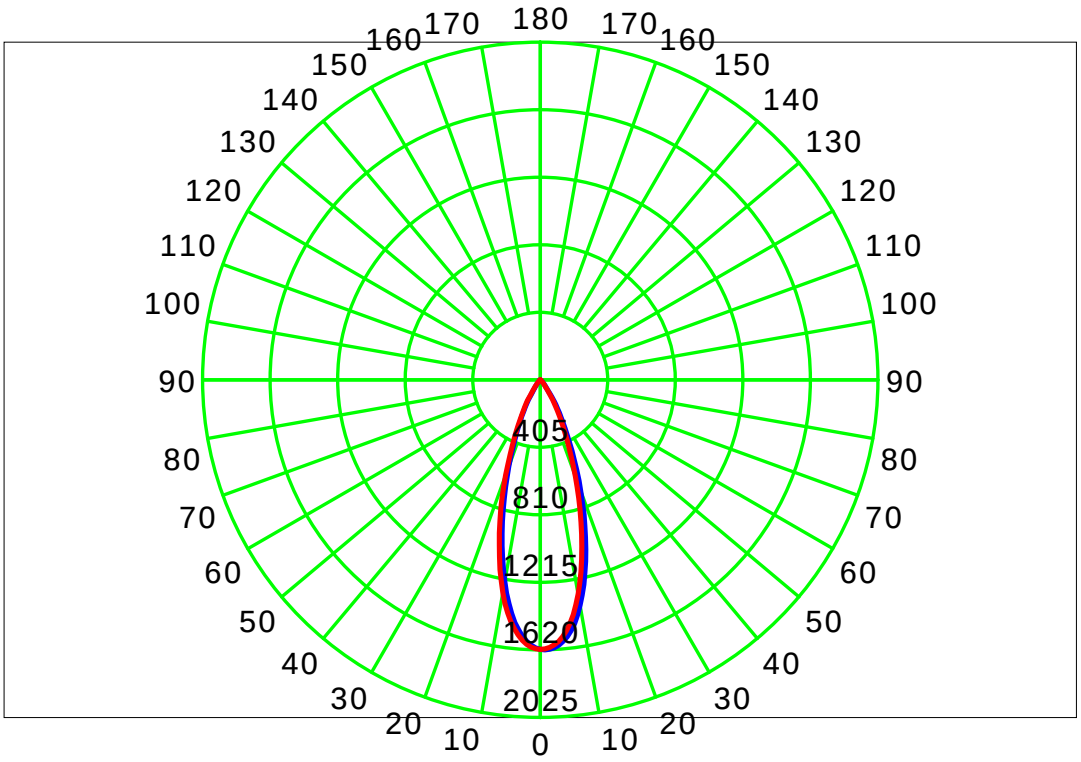
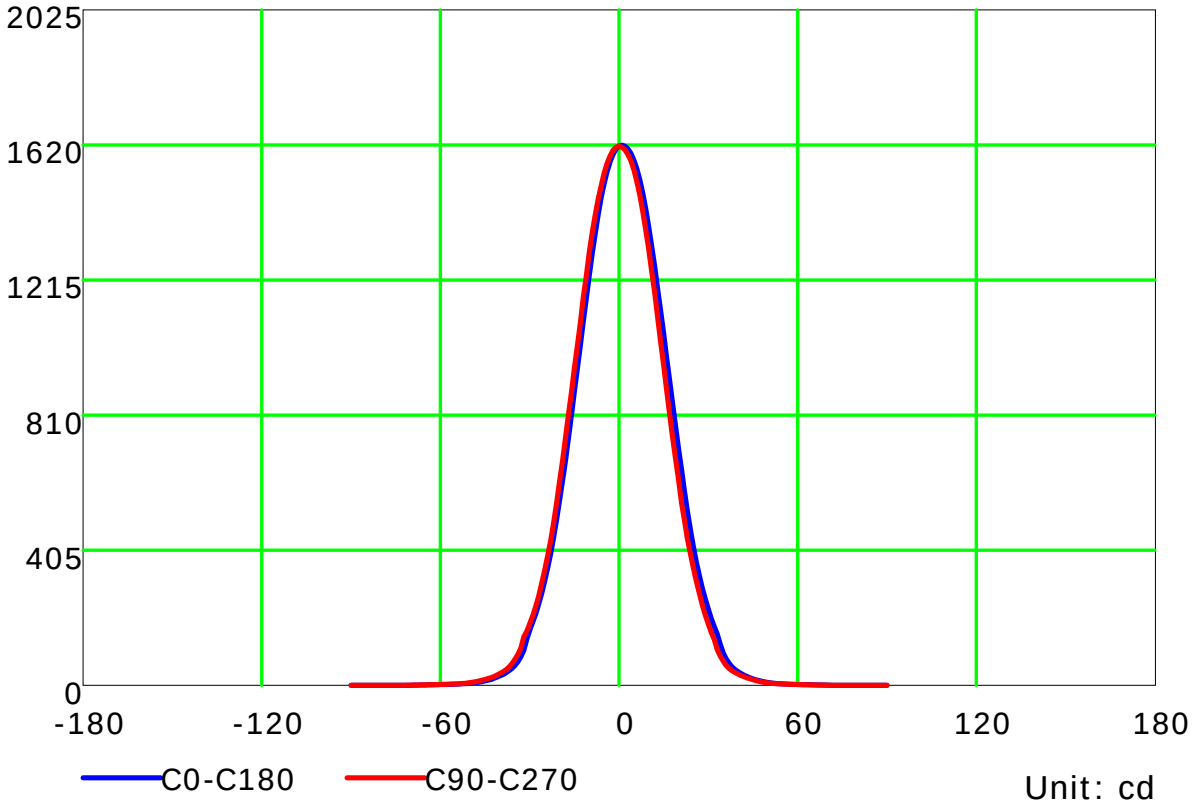
Luminous Intensity Distribution Curve





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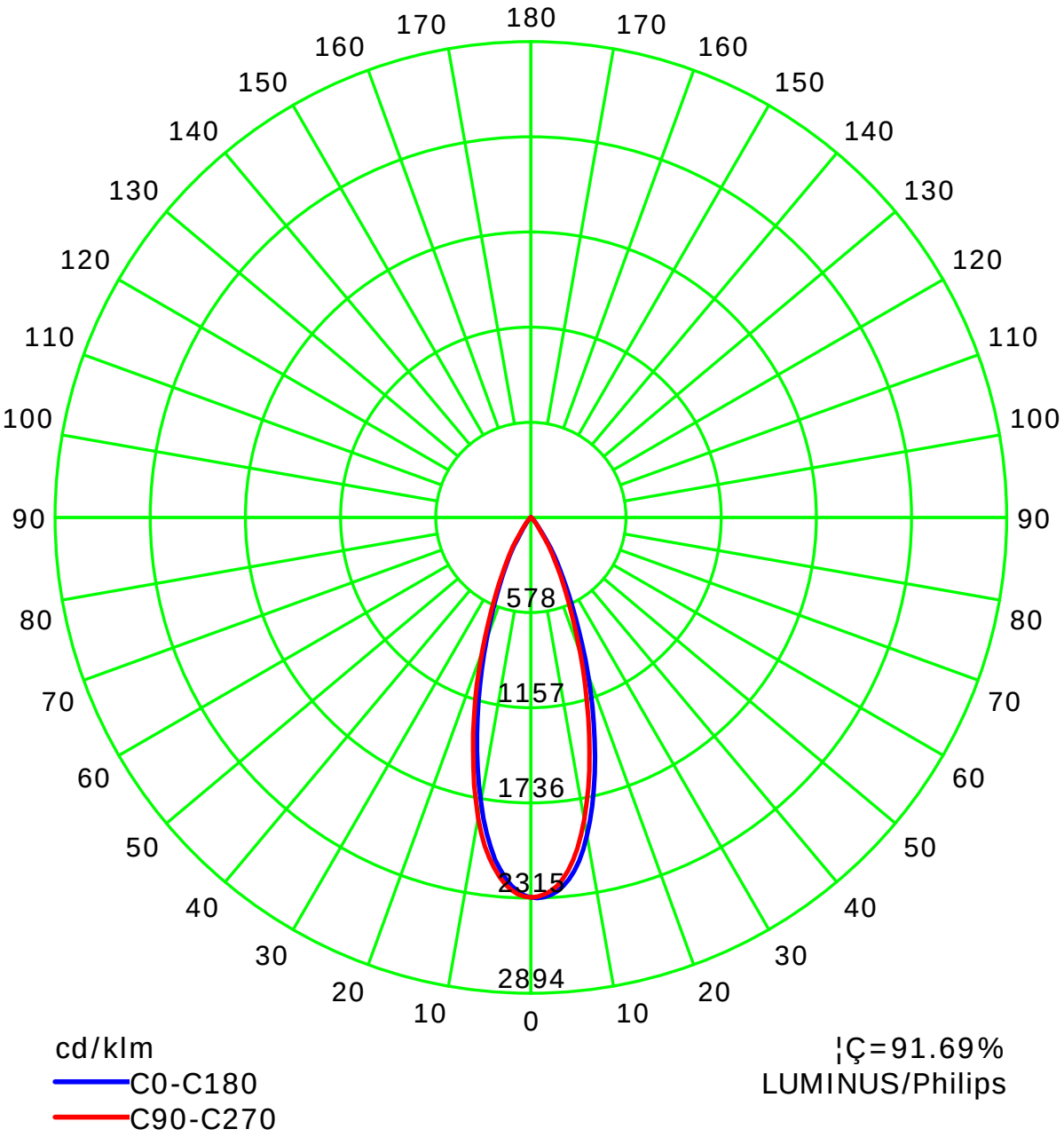
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Luminous Intensity Distribution Curve(cd/klm)



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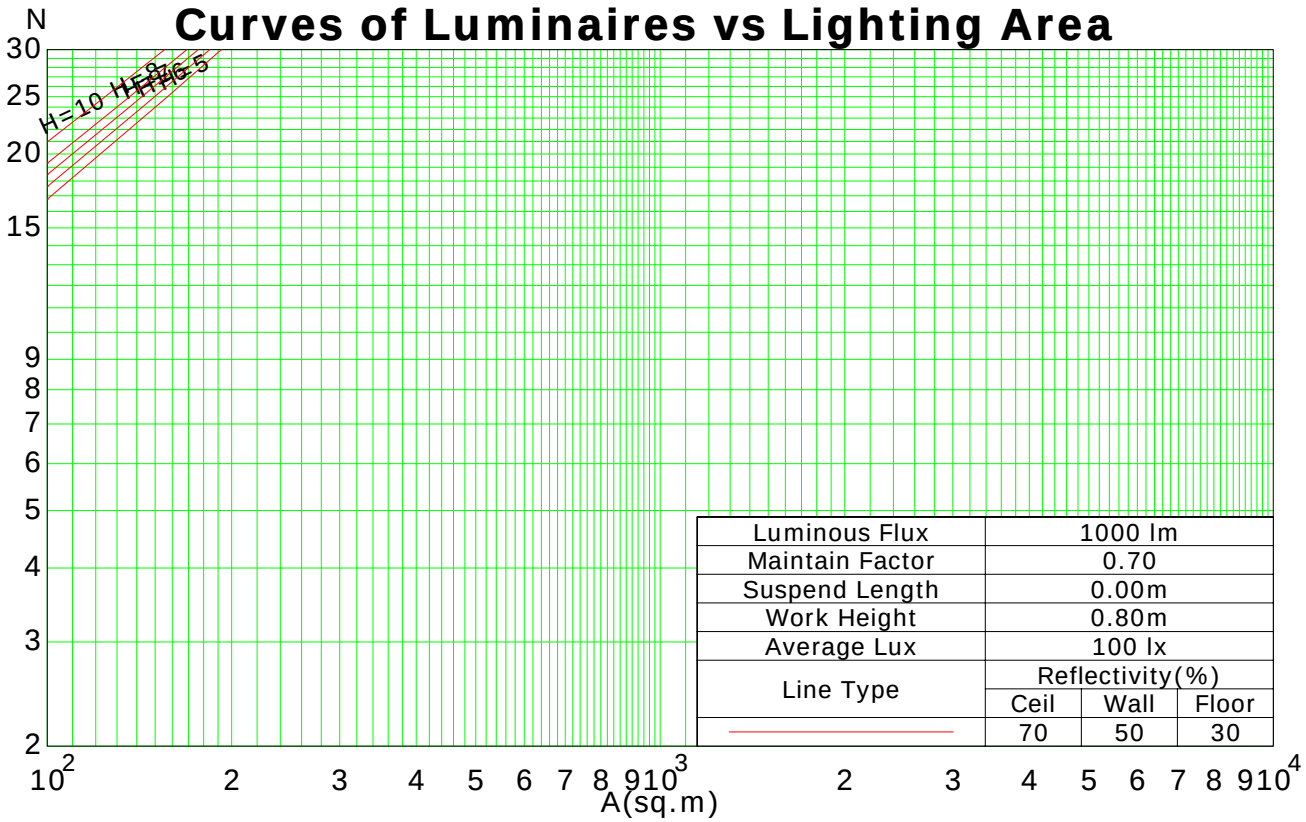
Coefficients Of Utilization - Zonal Cavity Method

RC	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0
RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
RCR	RF = 0.2																	
0	109	109	109	109	107	107	107	107	102	102	102	98	98	98	94	94	94	92
1	105	103	101	99	103	101	99	97	97	96	94	94	93	92	91	90	89	87
2	101	97	94	91	99	95	93	90	93	90	88	90	88	86	87	86	85	83
3	97	92	88	85	95	91	87	84	88	85	83	86	84	82	84	82	80	79
4	93	87	83	80	91	86	82	79	84	81	78	83	80	78	81	79	77	75
5	89	83	79	75	88	82	78	75	81	77	74	79	76	74	78	75	73	72
6	86	79	75	72	85	79	74	71	77	74	71	76	73	70	75	72	70	69
7	83	76	71	68	82	75	71	68	74	70	68	73	70	67	72	69	67	66
8	80	73	68	65	79	72	68	65	71	68	65	71	67	65	70	67	64	63
9	77	70	65	62	76	69	65	62	69	65	62	68	64	62	67	64	62	61
10	74	67	63	60	74	67	63	60	66	62	60	66	62	60	65	62	59	58

Spacing Criteria (0-180): 0.57
Spacing Criteria (90-270): 0.56
Spacing Criteria (Diagonal): 0.57

Curves of Luminaires vs Lighting Area



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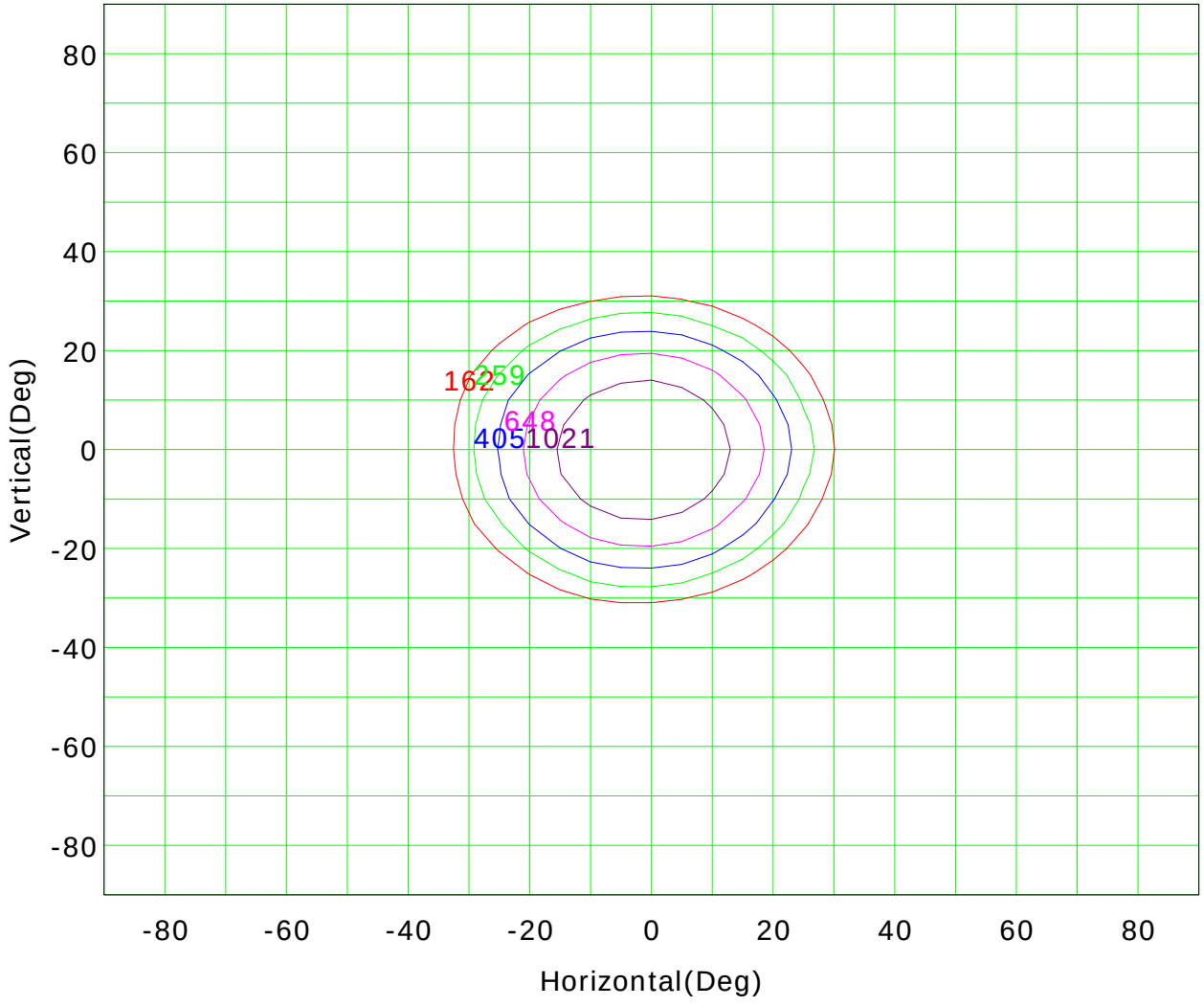
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Isocandela (rectangle)



Imax (100%): 1621 cd

(10%): 162 cd	(16%): 259 cd
(25%): 405 cd	(40%): 648 cd
(63%): 1021 cd	(100%): 1621 cd

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
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Distance: 8.300 m
Humidity: 60%
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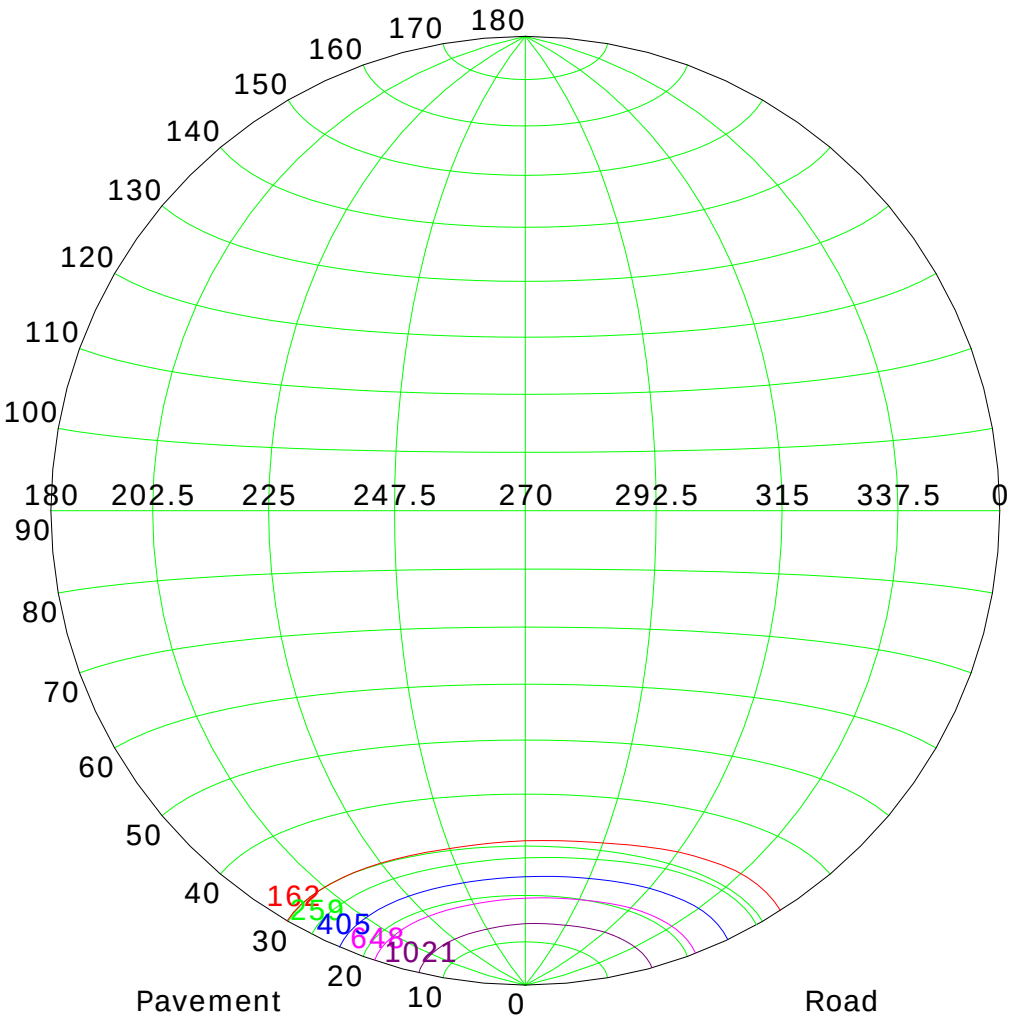
Isocandela (sphere)



Imax (100%): 1621 cd

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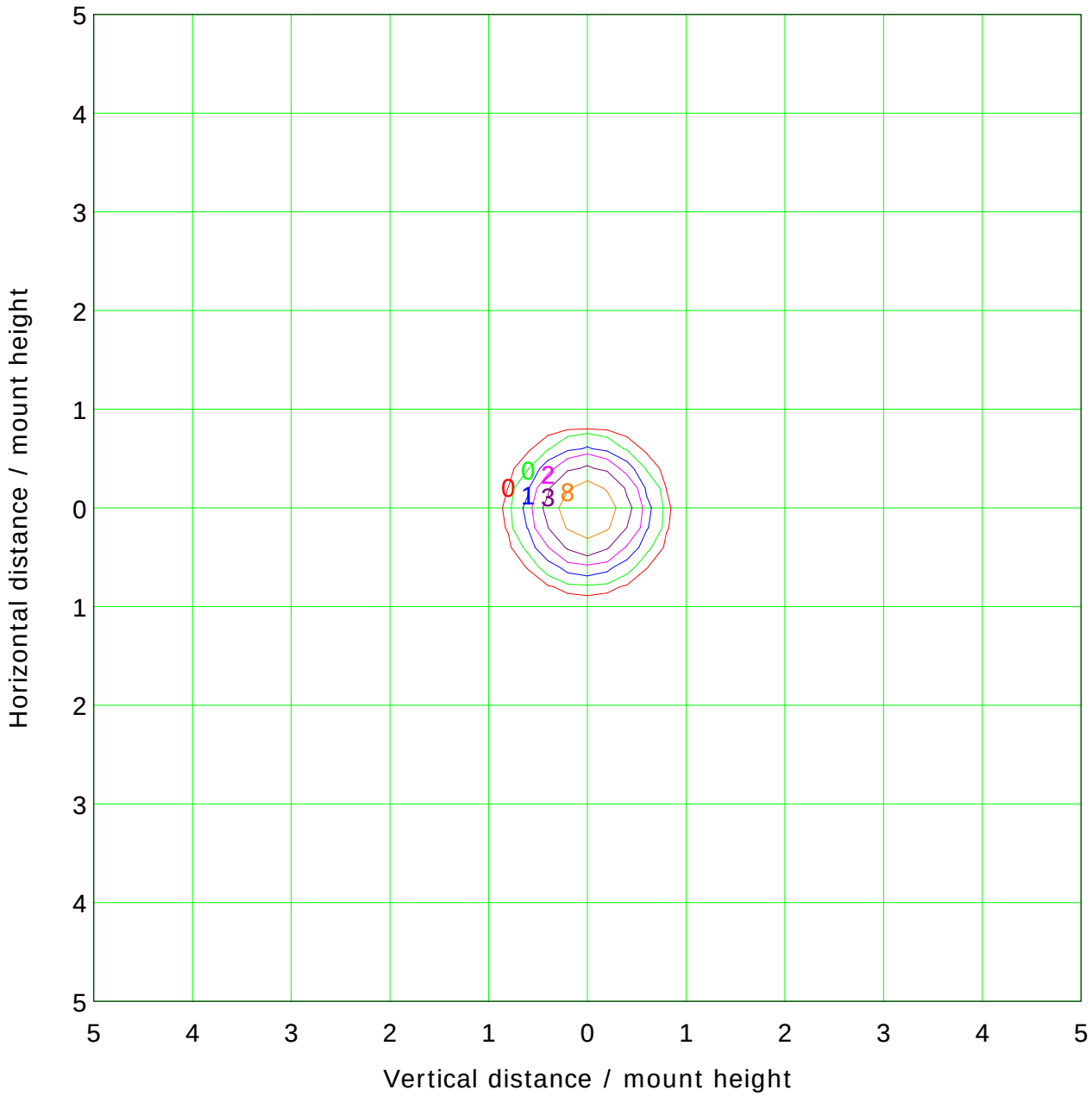
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 16.2 lx

(1%): 0.2 lx	(2%): 0.3 lx
(5%): 0.8 lx	(10%): 1.6 lx
(20%): 3.2 lx	(50%): 8.1 lx
(100%): 16.2 lx	

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
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Gamma Plane (°):0.0-90.0:1.0
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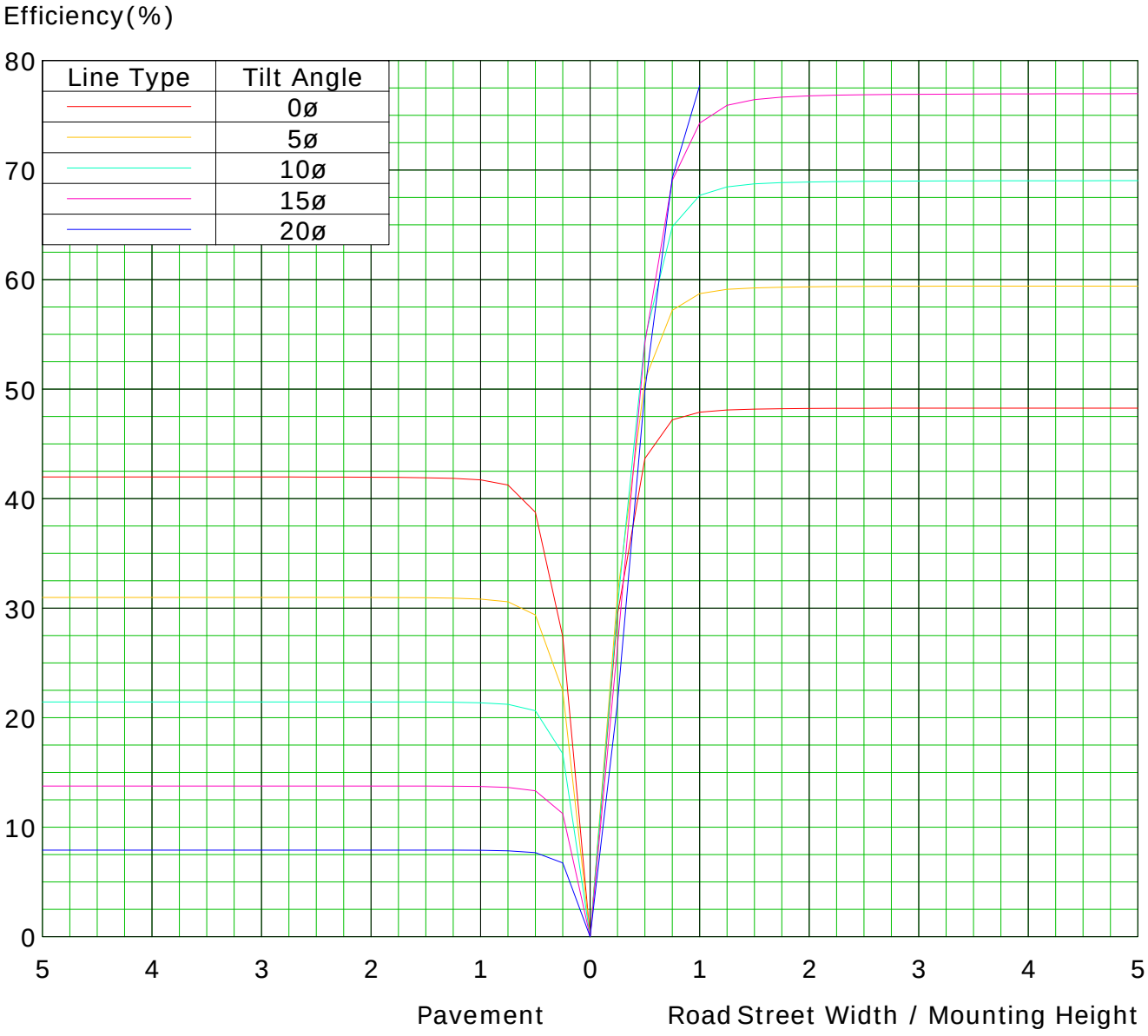
Roadway CU Curve



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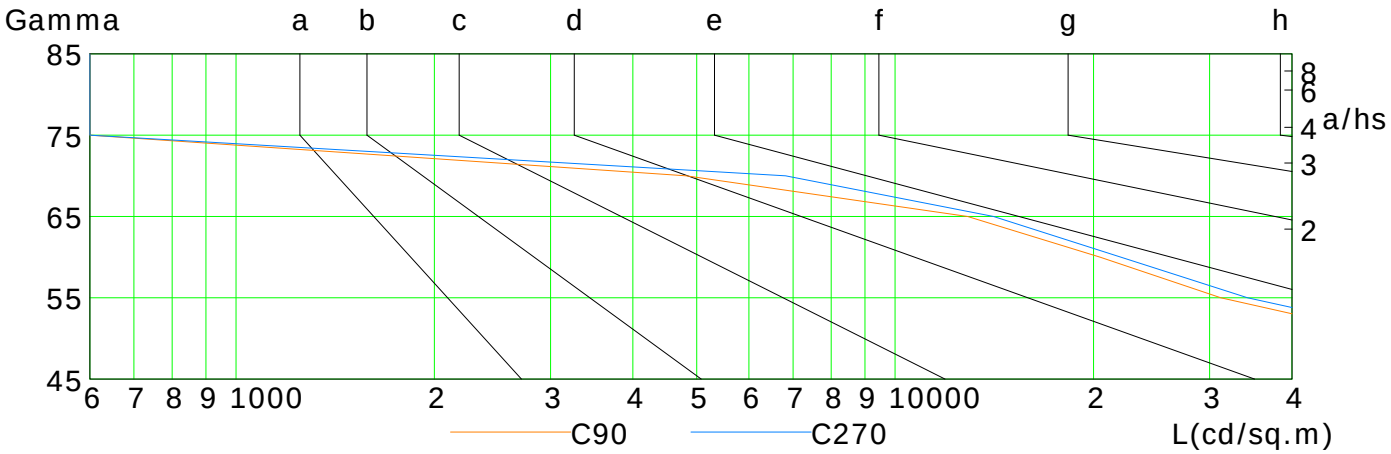
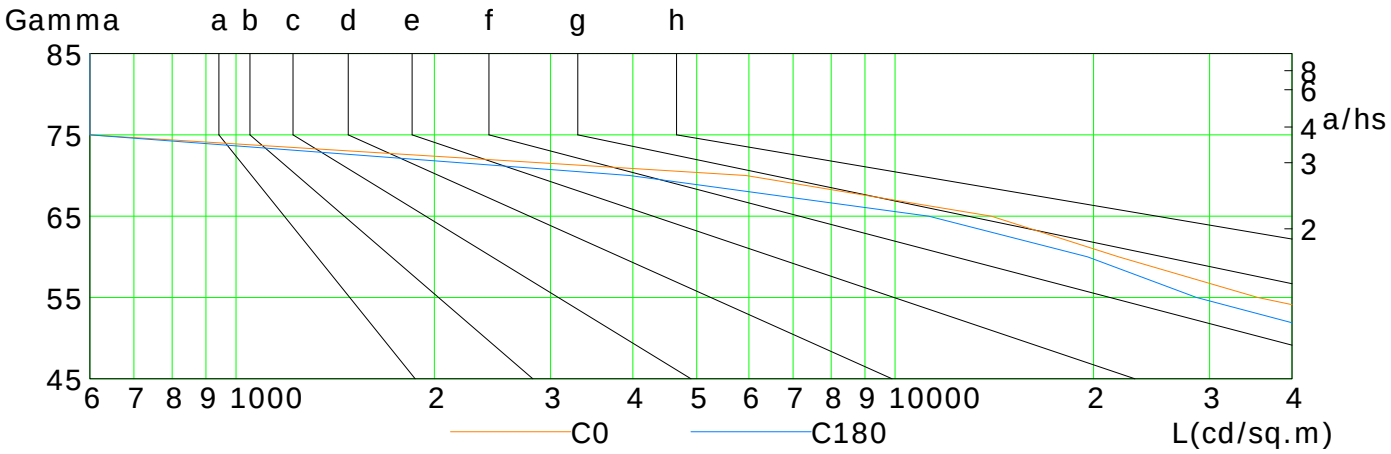
Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



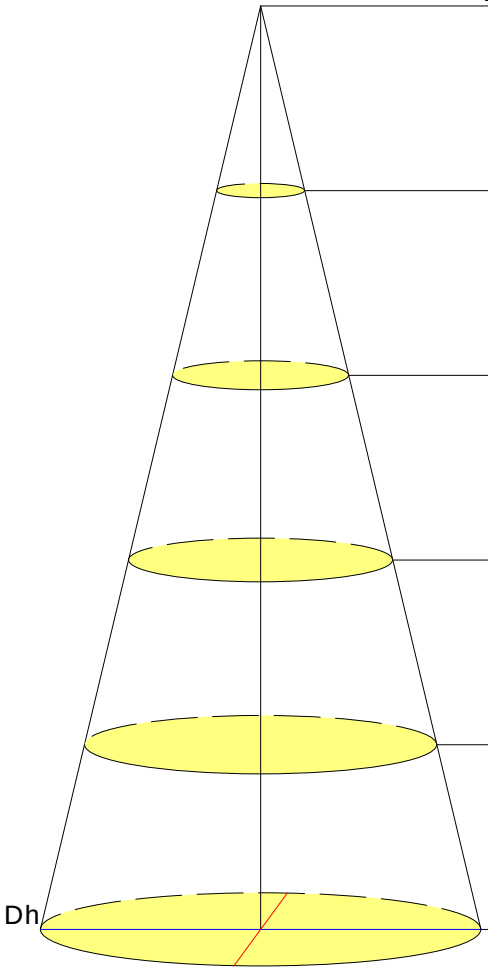


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	159528	70823	35498	21822	13994	5939	0	0	0
C90	139360	59055	31193	20456	12880	4819	0	0	0
C180	109233	49030	28649	19581	11246	3957	0	0	0
C270	145544	65983	34242	21991	14100	6818	0	0	0

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Illuminance at a Distance



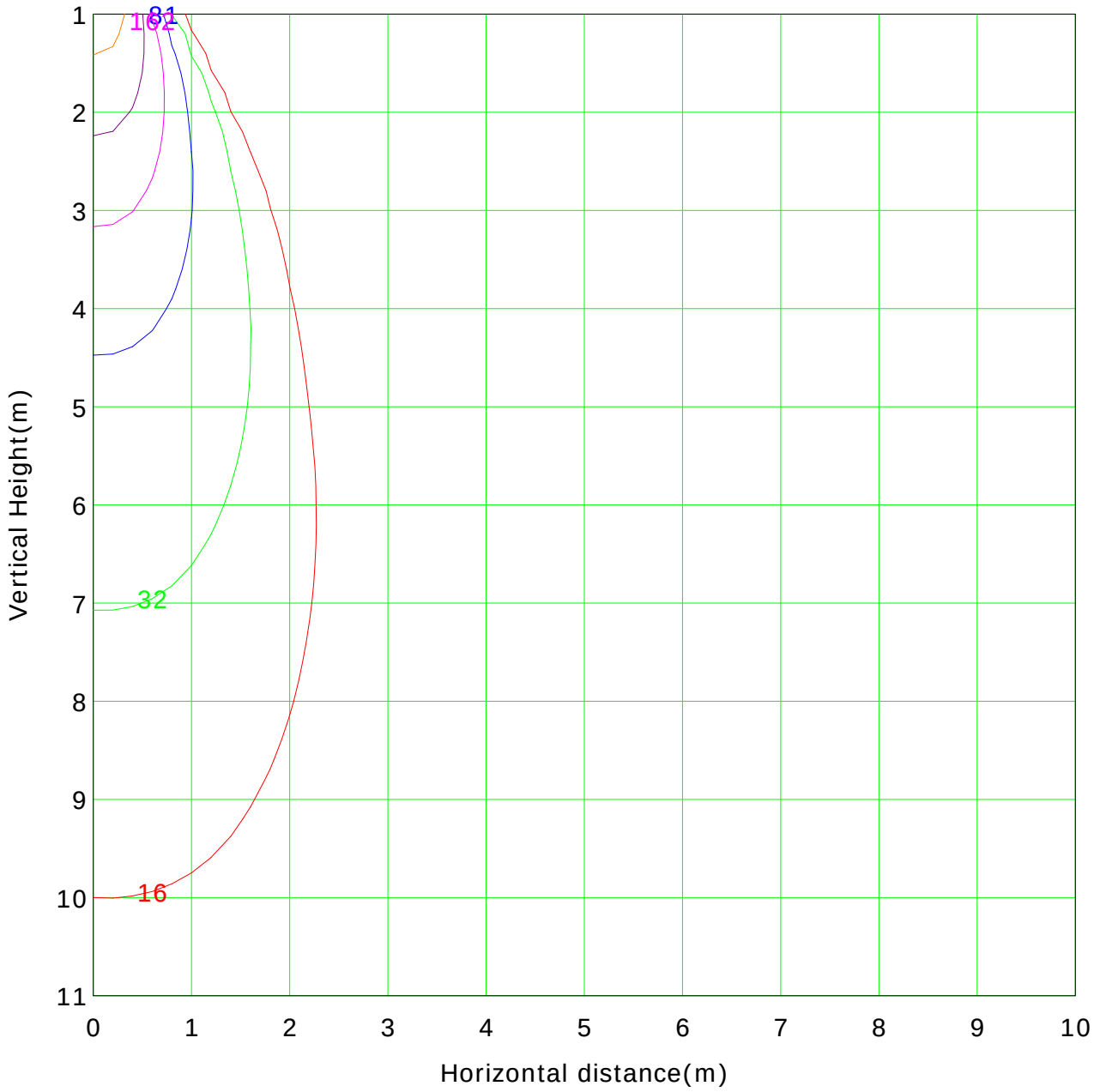
Dist(m)	Enadir(lx)	Dh/Dv_B(m)	S_B(sq.m)	Eav_B(lx)
1.0	1617.64	0.62/0.61	0.3	1002.83
2.0	404.41	1.24/1.23	1.2	250.71
3.0	179.74	1.87/1.84	2.7	111.43
4.0	101.10	2.49/2.46	4.8	62.68
5.0	64.71	3.11/3.07	7.5	40.11

Beam Angle(B): H34.5 V34.1 Field Angle(F): H62.8 V62.0

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 1617.6 lx

(1%): 16.2 lx	(2%): 32.4 lx
(5%): 80.9 lx	(10%): 161.8 lx
(20%): 323.5 lx	(50%): 808.8 lx
(100%):1617.6 lx	

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Lisun Electronics Inc.
http://www.Lisungroup.com
Tel: +86(21)51083341
Fax: +86(21)51083342

Area Flux Table

Unit: lm

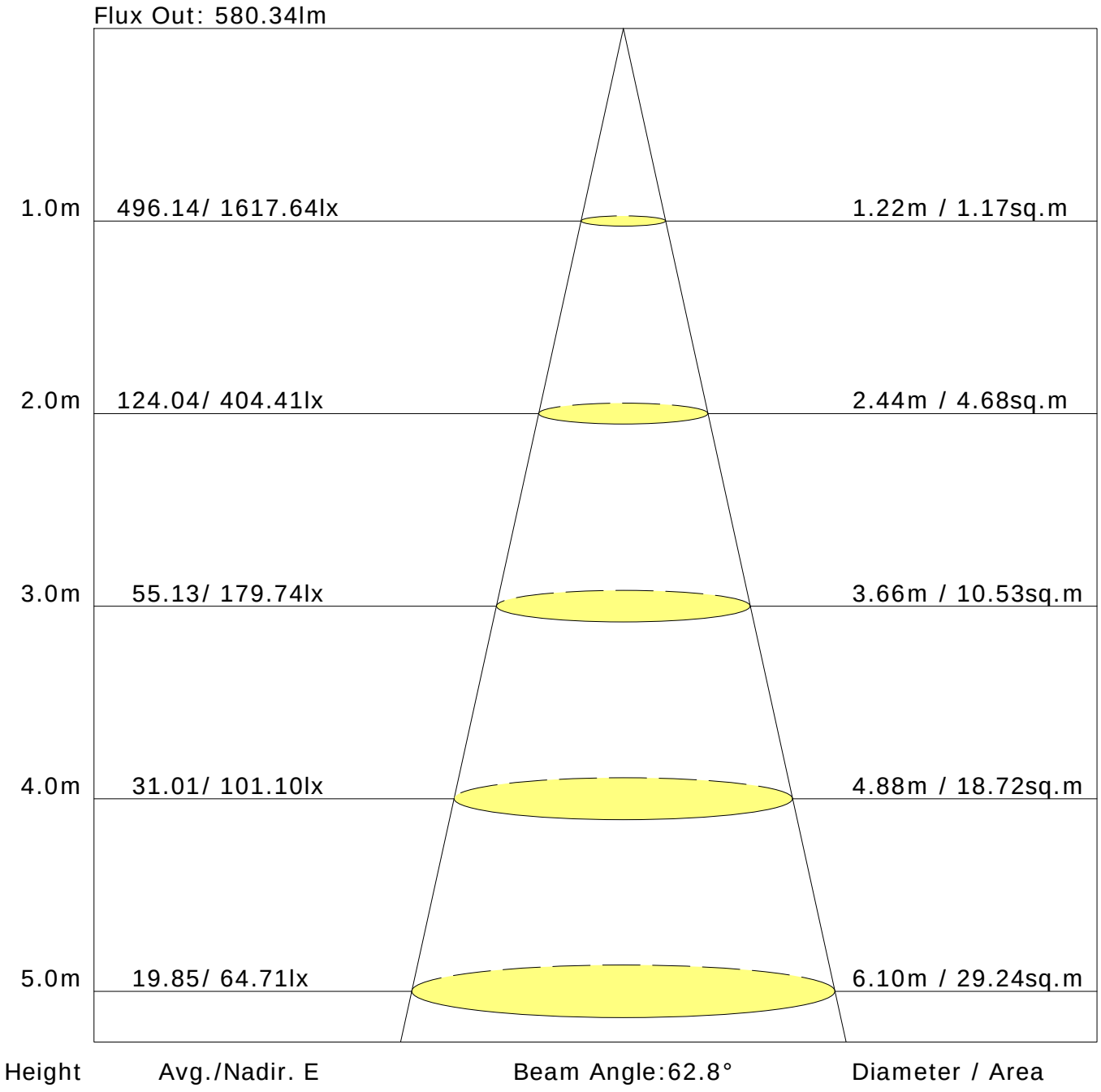
Vertical plane

Horizontal plane	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	Flux(T)	Flux(E)
-90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
-60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
-50	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.7	0.0
-40	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.6	1.1	1.7	1.7	1.1	0.6	0.3	0.1	0.0	0.0	0.0	0.0	7.6	0.0
-30	0.0	0.0	0.0	0.0	0.1	0.1	0.6	2.0	5.1	8.2	8.4	5.3	2.1	0.7	0.2	0.1	0.0	0.0	0.0	33.0	24.4
-20	0.0	0.0	0.0	0.0	0.1	0.4	1.4	5.7	14.6	23.9	23.9	14.9	5.9	1.4	0.4	0.1	0.0	0.0	0.0	92.6	86.1
-10	0.0	0.0	0.0	0.0	0.1	0.5	2.3	10.0	26.2	41.6	41.4	25.8	9.9	2.4	0.5	0.1	0.1	0.0	0.0	161.1	155.1
0	0.0	0.0	0.0	0.0	0.1	0.5	2.6	10.8	28.0	44.1	43.5	27.3	10.6	2.6	0.6	0.1	0.1	0.0	0.0	171.0	165.2
10	0.0	0.0	0.0	0.0	0.1	0.4	1.8	7.3	18.2	29.0	28.5	18.0	7.3	1.7	0.5	0.1	0.0	0.0	0.0	112.9	106.8
20	0.0	0.0	0.0	0.0	0.1	0.3	0.9	2.9	7.2	11.2	11.3	7.5	3.1	0.9	0.3	0.1	0.0	0.0	0.0	45.8	38.4
30	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.8	1.8	2.7	2.7	1.8	0.9	0.4	0.1	0.1	0.0	0.0	0.0	11.9	2.5
40	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4	0.5	0.5	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	2.6	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	642	
Flux(E)	579	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Flux(T)	

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

The Average Illuminance Effective Figure



C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

UGR Table

Reflectance: Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	24.7	25.5	25.0	25.7	25.8	23.4	24.2	23.7	24.3	24.5
3H	24.6	25.3	24.9	25.5	25.7	23.3	24.0	23.6	24.2	24.4
4H	24.5	25.1	24.8	25.4	25.7	23.2	23.9	23.5	24.1	24.4
6H	24.5	25.0	24.8	25.3	25.6	23.2	23.7	23.5	24.0	24.3
8H	24.4	25.0	24.8	25.3	25.6	23.1	23.7	23.5	24.0	24.3
12H	24.4	24.9	24.7	25.2	25.5	23.1	23.6	23.4	23.9	24.2
X=4H Y=2H	24.5	25.2	24.9	25.4	25.7	23.2	23.9	23.6	24.1	24.4
3H	24.4	24.9	24.8	25.2	25.5	23.1	23.6	23.5	23.9	24.3
4H	24.3	24.8	24.7	25.1	25.5	23.0	23.5	23.4	23.8	24.2
6H	24.2	24.6	24.6	25.0	25.4	22.9	23.4	23.4	23.7	24.1
8H	24.2	24.6	24.6	25.0	25.4	22.9	23.3	23.3	23.7	24.1
12H	24.1	24.5	24.6	24.9	25.3	22.9	23.2	23.3	23.6	24.0
X=8H Y=4H	24.2	24.6	24.6	25.0	25.4	22.9	23.3	23.3	23.7	24.1
6H	24.1	24.4	24.5	24.8	25.3	22.8	23.1	23.3	23.5	24.0
8H	24.0	24.3	24.5	24.8	25.2	22.8	23.0	23.2	23.5	23.9
12H	24.0	24.2	24.5	24.7	25.2	22.7	22.9	23.2	23.4	23.9
X=12H Y=4H	24.1	24.5	24.6	24.9	25.3	22.9	23.2	23.3	23.6	24.0
6H	24.0	24.3	24.5	24.8	25.2	22.8	23.0	23.2	23.5	23.9
8H	24.0	24.2	24.5	24.7	25.2	22.7	22.9	23.2	23.4	23.9
Variations with the observer position at spacings:										
S=1.0H	+5.9/-11.2					+5.6/-10.1				
S=1.5H	+8.7/-13.5					+8.4/-12.2				
S=2.0H	+10.7/-16.4					+10.4/-14.8				

Calculate in accordance with CIE Pub.117. The table is revised with 700lm (8log(F/F0) = -1.2).

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Lisun Electronics Inc.
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Tel: +86(21)51083341
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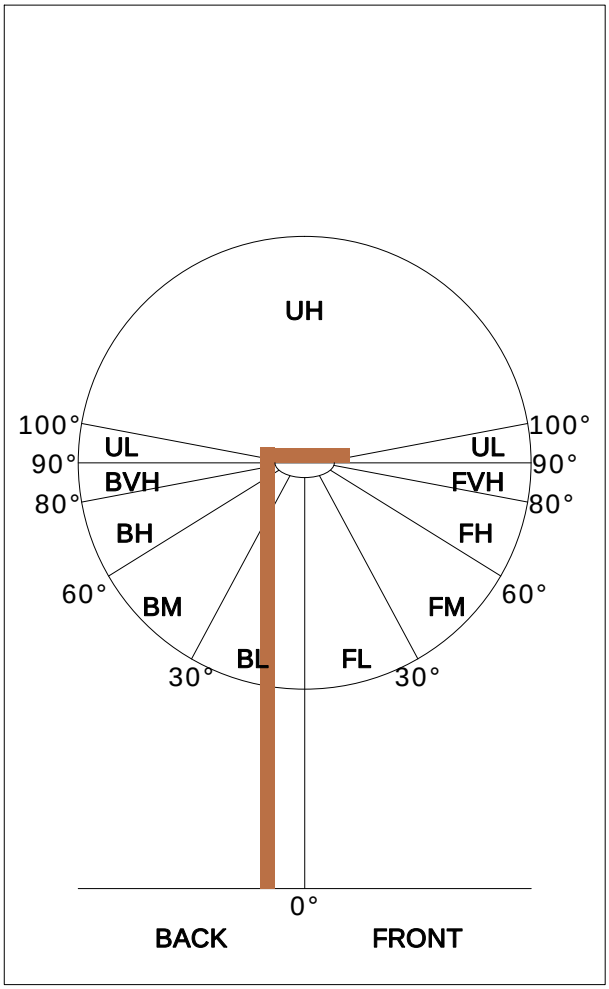
FLUX DISTRIBUTION TABLE BASED ON THE IESNA LUMINAIRE CLASSIFICATION SYSTEM



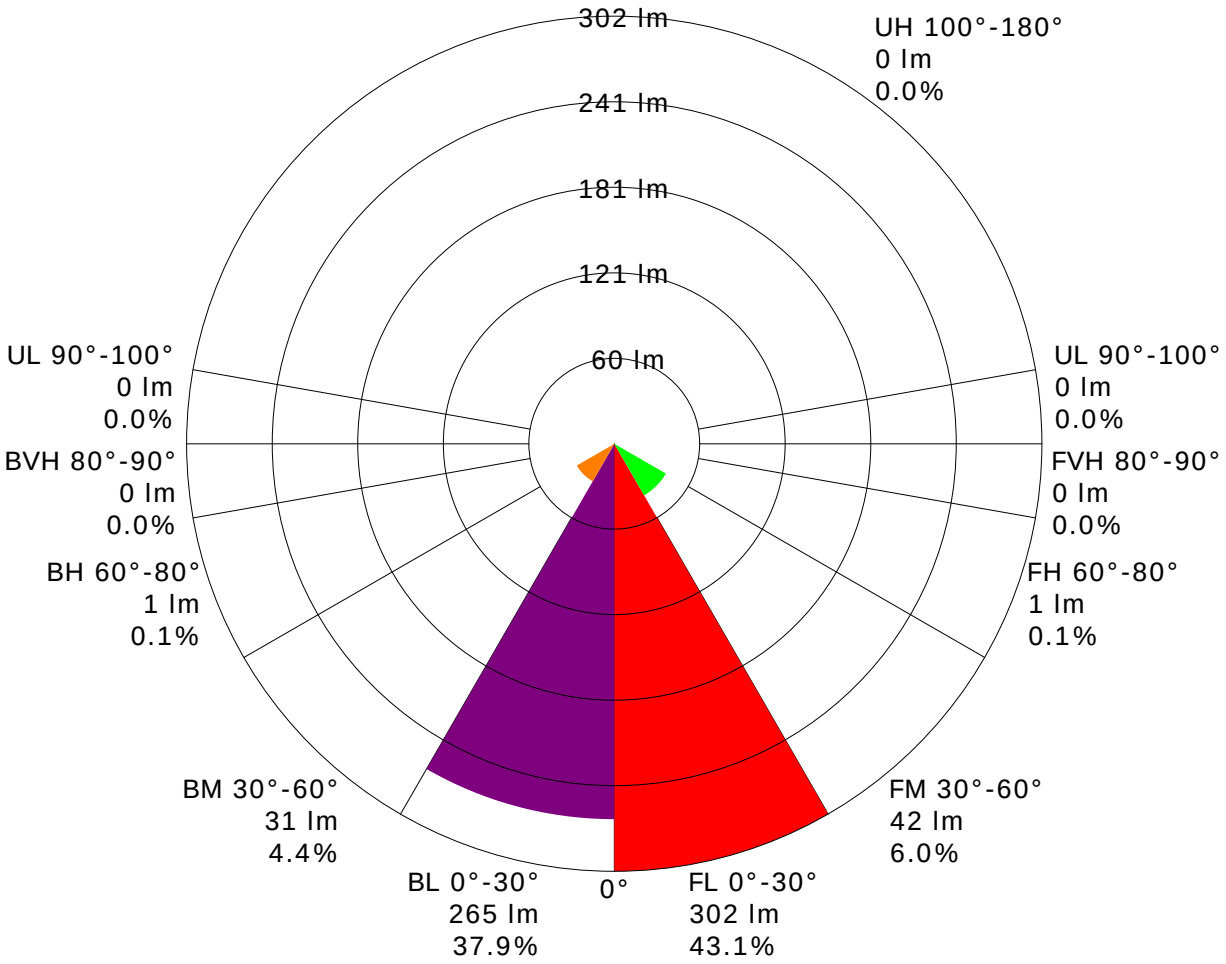
ZONE	LUMENS	% LAMP LUMENS
FORWARD LIGHT	345	49.3
FL (0°-30°)	302	43.1
FM (30°-60°)	42	6.0
FH (60°-80°)	1	0.1
FVH (80°-90°)	0	0.0
BACK LIGHT	297	42.4
BL (0°-30°)	265	37.9
BM (30°-60°)	31	4.4
BH (60°-80°)	1	0.1
BVH (80°-90°)	0	0.0
UP LIGHT	0	0.0
UL (90°-100°)	0	0.0
UH (100°-180°)	0	0.0
TRAPPED LIGHT	58	8.3

BUG(**B**acklight,**U**plight,**G**lare) Rating Base On TM-15-07	
Asymmetrical Luminaire Types (Type I,II,III,IV)	B1 U0 G0
Quadrilateral Symmetrical Luminaire Types (Type V,Area Light)	B1 U0 G0

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

LCS Graph



Back Light **Forward Light**

Scale= 302 lm

Trapped Light:58 lm,8.3%

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.86	0.90	0.93	0.95	0.98	0.99	1.01	1.02	1.03
	0.30		0.82	0.87	0.90	0.92	0.95	0.97	0.99	1.01	1.02
	0.20		0.80	0.84	0.87	0.90	0.93	0.95	0.97	0.99	1.01
0.50	0.50	0.20	0.85	0.89	0.91	0.93	0.95	0.97	0.98	0.99	1.00
	0.30		0.82	0.86	0.88	0.90	0.93	0.95	0.96	0.97	0.98
	0.20		0.80	0.84	0.86	0.88	0.91	0.93	0.94	0.96	0.97
0.30	0.50	0.20	0.84	0.87	0.89	0.91	0.93	0.94	0.95	0.96	0.96
	0.30		0.81	0.85	0.87	0.89	0.91	0.92	0.93	0.95	0.95
	0.20		0.79	0.83	0.86	0.87	0.90	0.91	0.92	0.94	0.95
0.00	0.00	0.00	0.78	0.81	0.84	0.85	0.87	0.88	0.89	0.90	0.90

Rating:9W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Utilisation Factor Table(Wall)

Utilisation Factors UF(W)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.42	0.34	0.29	0.25	0.20	0.16	0.14	0.11	0.09
	0.30		0.35	0.29	0.25	0.22	0.18	0.15	0.13	0.10	0.08
	0.20		0.30	0.25	0.22	0.20	0.16	0.14	0.12	0.10	0.08
0.50	0.50	0.20	0.40	0.32	0.27	0.23	0.18	0.19	0.13	0.10	0.08
	0.30		0.33	0.28	0.24	0.21	0.16	0.14	0.12	0.09	0.08
	0.20		0.29	0.24	0.21	0.19	0.15	0.13	0.11	0.09	0.07
0.30	0.50	0.20	0.38	0.30	0.25	0.21	0.16	0.13	0.11	0.09	0.07
	0.30		0.32	0.26	0.22	0.19	0.15	0.13	0.11	0.08	0.07
	0.20		0.28	0.23	0.20	0.18	0.14	0.12	0.10	0.08	0.07
0.00	0.00	0.00	0.15	0.11	0.09	0.08	0.06	0.05	0.04	0.03	0.02

Rating:9W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Utilisation Factor Table(Ceiling cavity)

Utilisation Factors UF(C)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.11	0.12	0.14	0.15	0.16	0.17	0.18	0.18	0.19
	0.30		0.08	0.10	0.11	0.12	0.14	0.15	0.16	0.17	0.18
	0.20		0.06	0.08	0.09	0.11	0.12	0.14	0.15	0.16	0.17
0.50	0.50	0.20	0.10	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.18
	0.30		0.08	0.10	0.11	0.12	0.14	0.15	0.15	0.17	0.17
	0.20		0.06	0.08	0.09	0.10	0.12	0.13	0.14	0.16	0.16
0.30	0.50	0.20	0.10	0.12	0.13	0.14	0.15	0.16	0.16	0.17	0.17
	0.30		0.08	0.09	0.11	0.12	0.13	0.14	0.15	0.16	0.17
	0.20		0.06	0.08	0.09	0.10	0.12	0.13	0.14	0.15	0.16
0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA

Rating:9W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Zonal Lumen

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	1616.0	1.5	1.5	0.22	0.22
1.0-2.0	1609.9	4.6	6.2	0.66	0.88
2.0-3.0	1597.9	7.6	13.8	1.09	1.97
3.0-4.0	1579.8	10.6	24.4	1.51	3.48
4.0-5.0	1555.1	13.4	37.8	1.91	5.40
5.0-6.0	1523.4	16.0	53.8	2.29	7.68
6.0-7.0	1485.0	18.4	72.2	2.63	10.32
7.0-8.0	1439.9	20.6	92.8	2.94	13.26
8.0-9.0	1388.2	22.5	115.3	3.21	16.47
9.0-10.0	1330.7	24.1	139.4	3.44	19.92
10.0-11.0	1268.9	25.4	164.8	3.62	23.54
11.0-12.0	1203.9	26.3	191.1	3.76	27.30
12.0-13.0	1135.9	27.0	218.1	3.85	31.15
13.0-14.0	1066.3	27.3	245.3	3.90	35.05
14.0-15.0	996.3	27.4	272.7	3.91	38.96
15.0-16.0	925.7	27.1	299.8	3.88	42.83
16.0-17.0	855.3	26.6	326.5	3.81	46.64
17.0-18.0	785.9	25.9	352.4	3.70	50.34
18.0-19.0	718.0	25.0	377.4	3.57	53.91
19.0-20.0	652.9	23.9	401.3	3.41	57.32
20.0-21.0	590.2	22.7	423.9	3.24	60.56
21.0-22.0	530.1	21.3	445.2	3.04	63.61
22.0-23.0	474.0	19.9	465.1	2.84	66.45
23.0-24.0	423.1	18.5	483.6	2.64	69.09
24.0-25.0	376.5	17.1	500.8	2.45	71.54
25.0-26.0	333.6	15.8	516.5	2.25	73.79
26.0-27.0	295.0	14.4	530.9	2.06	75.85
27.0-28.0	260.1	13.2	544.1	1.88	77.73
28.0-29.0	229.1	12.0	556.1	1.71	79.44
29.0-30.0	201.5	10.9	567.0	1.55	81.00
30.0-31.0	176.1	9.8	576.8	1.40	82.40
31.0-32.0	151.0	8.7	585.4	1.24	83.63
32.0-33.0	127.0	7.5	592.9	1.07	84.70
33.0-34.0	104.6	6.3	599.3	0.90	85.61
34.0-35.0	84.9	5.3	604.5	0.75	86.36
35.0-36.0	70.0	4.5	609.0	0.64	87.00

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Zonal Lumen (Continue 1)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	58.9	3.8	612.8	0.55	87.55
37.0-38.0	50.2	3.4	616.2	0.48	88.03
38.0-39.0	43.3	3.0	619.1	0.42	88.45
39.0-40.0	37.7	2.6	621.8	0.38	88.82
40.0-41.0	32.9	2.3	624.1	0.33	89.16
41.0-42.0	28.7	2.1	626.2	0.30	89.46
42.0-43.0	25.0	1.9	628.0	0.26	89.72
43.0-44.0	21.8	1.6	629.7	0.23	89.96
44.0-45.0	18.9	1.5	631.1	0.21	90.16
45.0-46.0	16.3	1.3	632.4	0.18	90.35
46.0-47.0	14.0	1.1	633.5	0.16	90.50
47.0-48.0	11.9	1.0	634.5	0.14	90.64
48.0-49.0	10.1	0.8	635.3	0.12	90.76
49.0-50.0	8.6	0.7	636.0	0.10	90.86
50.0-51.0	7.3	0.6	636.7	0.09	90.95
51.0-52.0	6.3	0.5	637.2	0.08	91.03
52.0-53.0	5.5	0.5	637.7	0.07	91.10
53.0-54.0	4.9	0.4	638.1	0.06	91.16
54.0-55.0	4.4	0.4	638.5	0.06	91.22
55.0-56.0	3.9	0.4	638.9	0.05	91.27
56.0-57.0	3.6	0.3	639.2	0.05	91.31
57.0-58.0	3.3	0.3	639.5	0.04	91.36
58.0-59.0	3.0	0.3	639.8	0.04	91.40
59.0-60.0	2.8	0.3	640.0	0.04	91.43
60.0-61.0	2.5	0.2	640.3	0.03	91.47
61.0-62.0	2.3	0.2	640.5	0.03	91.50
62.0-63.0	2.1	0.2	640.7	0.03	91.53
63.0-64.0	1.9	0.2	640.9	0.03	91.56
64.0-65.0	1.8	0.2	641.1	0.02	91.58
65.0-66.0	1.6	0.2	641.2	0.02	91.60
66.0-67.0	1.4	0.1	641.4	0.02	91.62
67.0-68.0	1.2	0.1	641.5	0.02	91.64
68.0-69.0	1.0	0.1	641.6	0.01	91.66
69.0-70.0	0.8	0.1	641.7	0.01	91.67
70.0-71.0	0.6	0.1	641.7	0.01	91.68
71.0-72.0	0.4	0.0	641.8	0.01	91.68

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Zonal Lumen (Continue 2)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	0.2	0.0	641.8	0.00	91.69
73.0-74.0	0.1	0.0	641.8	0.00	91.69
74.0-75.0	0.0	0.0	641.8	0.00	91.69
75.0-76.0	0.0	0.0	641.8	0.00	91.69
76.0-77.0	0.0	0.0	641.8	0.00	91.69
77.0-78.0	0.0	0.0	641.8	0.00	91.69
78.0-79.0	0.0	0.0	641.8	0.00	91.69
79.0-80.0	0.0	0.0	641.8	0.00	91.69
80.0-81.0	0.0	0.0	641.8	0.00	91.69
81.0-82.0	0.0	0.0	641.8	0.00	91.69
82.0-83.0	0.0	0.0	641.8	0.00	91.69
83.0-84.0	0.0	0.0	641.8	0.00	91.69
84.0-85.0	0.0	0.0	641.8	0.00	91.69
85.0-86.0	0.0	0.0	641.8	0.00	91.69
86.0-87.0	0.0	0.0	641.8	0.00	91.69
87.0-88.0	0.0	0.0	641.8	0.00	91.69
88.0-89.0	0.0	0.0	641.8	0.00	91.69
89.0-90.0	0.0	0.0	641.8	0.00	91.69

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Candlepower Table

Unit: cd

G\C	C0.0	C22.5	C45.0	C67.5	C90.0	C112.5	C135.0	C157.5	C180.0	C202.5
G0.0	1617.6	1617.6	1617.6	1617.6	1617.6	1617.6	1617.6	1617.6	1617.6	1617.6
G1.0	1620.7	1620.8	1619.6	1618.0	1614.4	1612.5	1609.8	1609.4	1609.1	1607.4
G2.0	1617.3	1620.4	1618.4	1612.9	1606.6	1601.9	1596.2	1593.4	1593.3	1591.4
G3.0	1609.6	1613.9	1609.7	1604.2	1592.8	1584.6	1574.9	1572.7	1571.5	1567.7
G4.0	1596.1	1600.2	1595.7	1587.7	1574.3	1563.3	1549.2	1544.0	1542.2	1539.9
G5.0	1575.2	1581.0	1576.2	1565.7	1546.5	1531.8	1515.4	1509.5	1504.7	1502.0
G6.0	1549.8	1555.0	1548.9	1534.2	1512.0	1494.5	1472.2	1466.9	1464.7	1461.4
G7.0	1516.5	1524.9	1517.1	1498.5	1470.6	1451.1	1425.8	1416.8	1412.4	1411.0
G8.0	1477.2	1484.2	1475.4	1454.2	1422.9	1399.5	1371.5	1362.3	1356.5	1351.9
G9.0	1429.5	1441.8	1428.6	1403.8	1366.2	1342.3	1308.7	1301.5	1297.2	1290.3
G10.0	1373.9	1389.3	1373.7	1347.2	1307.2	1277.7	1245.5	1233.0	1228.7	1225.1
G11.0	1317.0	1332.8	1315.4	1287.8	1242.4	1212.6	1177.9	1162.9	1161.8	1157.0
G12.0	1256.5	1269.7	1251.4	1219.3	1177.3	1145.2	1108.9	1093.6	1092.3	1086.7
G13.0	1190.0	1206.2	1185.1	1151.7	1105.5	1072.3	1035.3	1023.2	1021.9	1015.2
G14.0	1123.8	1139.7	1114.3	1081.6	1030.3	1002.9	965.4	944.1	950.7	945.4
G15.0	1055.6	1071.2	1041.7	1008.3	960.2	933.6	890.3	876.9	880.5	875.2
G16.0	984.2	1001.3	970.1	939.8	887.7	857.7	818.6	803.1	810.6	801.5
G17.0	916.0	928.2	899.9	862.1	814.6	789.1	747.2	734.2	741.4	733.5
G18.0	848.4	850.9	823.2	794.6	746.3	721.3	680.1	663.9	675.4	668.3
G19.0	778.5	784.0	754.1	720.9	680.6	653.6	612.6	599.8	613.3	605.4
G20.0	709.7	716.0	686.5	655.4	617.0	589.7	551.9	539.1	553.4	550.1
G21.0	649.7	646.3	619.3	592.4	549.3	528.7	489.8	480.6	496.5	490.6
G22.0	582.2	579.1	558.2	532.7	494.6	470.4	433.7	425.5	442.6	437.4
G23.0	523.0	515.6	499.1	475.4	440.5	416.7	382.9	377.8	394.7	390.2
G24.0	467.6	461.4	447.8	425.8	394.8	368.4	341.7	333.8	351.8	348.6
G25.0	415.2	405.7	399.5	378.3	351.4	325.4	297.5	294.6	311.4	308.0
G26.0	369.8	361.6	352.5	337.6	312.8	286.5	262.0	258.4	276.0	267.9
G27.0	329.6	318.8	312.3	300.9	275.8	252.6	229.7	227.3	243.5	234.4
G28.0	292.0	281.7	273.4	264.2	241.8	220.1	202.7	198.9	214.7	205.9
G29.0	259.3	246.6	237.3	232.0	210.8	193.5	178.4	174.3	189.8	182.5
G30.0	228.6	216.9	206.8	203.8	183.9	168.1	155.5	154.6	164.9	160.7
G31.0	201.0	192.2	181.7	179.7	159.8	145.0	132.1	126.1	138.6	134.7
G32.0	176.6	170.9	158.7	158.1	138.1	114.9	102.8	100.3	104.9	106.1
G33.0	155.0	151.2	139.3	130.7	107.9	90.1	83.8	83.2	86.1	88.9
G34.0	124.2	123.9	108.2	101.4	88.5	73.7	69.1	68.7	70.9	73.2
G35.0	97.4	98.4	89.7	82.0	72.6	62.1	58.0	56.4	59.4	61.4
G36.0	79.7	82.3	73.6	67.1	59.8	52.9	49.7	48.3	50.7	51.5

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Candlepower Table (Continue 1)

Unit: cd

G\C	C0.0	C22.5	C45.0	C67.5	C90.0	C112.5	C135.0	C157.5	C180.0	C202.5
G37.0	66.2	68.8	61.8	56.3	50.5	46.1	42.9	41.8	44.1	44.7
G38.0	55.3	57.9	52.6	48.4	44.0	40.7	37.8	36.2	37.9	39.2
G39.0	47.5	49.0	45.7	42.6	38.7	35.7	32.8	31.7	32.5	34.2
G40.0	41.1	42.5	39.8	37.8	34.0	31.5	28.9	27.6	28.4	29.8
G41.0	35.6	37.0	35.1	32.6	29.7	27.4	25.3	23.8	24.8	26.0
G42.0	30.4	32.4	30.5	28.5	26.0	24.0	21.9	20.7	21.2	22.6
G43.0	26.7	28.1	26.6	24.9	22.5	21.1	19.3	17.8	17.8	19.7
G44.0	22.9	24.4	23.0	21.8	19.8	18.3	16.6	15.3	15.7	17.1
G45.0	19.7	21.5	20.3	18.9	17.2	15.8	14.1	12.8	13.5	14.7
G46.0	16.7	18.7	17.5	16.4	14.7	13.3	11.7	10.7	11.4	12.3
G47.0	14.6	16.1	15.0	14.0	12.4	11.1	10.0	9.0	9.7	10.5
G48.0	12.2	13.5	12.6	11.7	10.4	9.4	8.3	7.6	8.3	8.9
G49.0	10.3	11.3	10.6	9.9	8.7	7.9	7.2	6.7	7.2	7.7
G50.0	8.8	9.7	8.9	8.3	7.4	6.7	6.1	5.8	6.1	6.5
G51.0	7.5	8.1	7.6	7.1	6.3	5.9	5.4	5.2	5.4	5.7
G52.0	6.3	6.8	6.2	6.1	5.5	5.1	4.8	4.6	4.9	5.1
G53.0	5.5	5.9	5.5	5.3	4.9	4.6	4.3	4.0	4.4	4.5
G54.0	4.9	5.1	4.8	4.7	4.3	4.1	3.9	3.8	3.9	4.1
G55.0	4.4	4.5	4.3	4.2	3.9	3.8	3.5	3.5	3.6	3.7
G56.0	3.9	4.0	3.8	3.8	3.6	3.4	3.2	3.2	3.2	3.4
G57.0	3.6	3.6	3.5	3.5	3.3	3.1	3.0	3.0	3.0	3.2
G58.0	3.3	3.3	3.2	3.2	2.9	2.9	2.7	2.7	2.8	2.9
G59.0	3.1	3.0	2.9	3.0	2.7	2.7	2.5	2.5	2.6	2.7
G60.0	2.7	2.8	2.6	2.7	2.5	2.5	2.4	2.3	2.4	2.5
G61.0	2.5	2.5	2.4	2.5	2.4	2.3	2.2	2.1	2.2	2.3
G62.0	2.3	2.3	2.2	2.3	2.1	2.1	2.0	1.9	2.0	2.1
G63.0	2.1	2.2	2.0	2.2	1.9	1.9	1.8	1.7	1.9	1.9
G64.0	2.0	1.9	1.8	2.0	1.8	1.7	1.6	1.6	1.5	1.7
G65.0	1.7	1.8	1.6	1.8	1.6	1.5	1.4	1.4	1.4	1.5
G66.0	1.5	1.5	1.5	1.6	1.3	1.4	1.3	1.2	1.3	1.3
G67.0	1.3	1.3	1.3	1.3	1.2	1.2	1.1	0.9	1.1	1.1
G68.0	1.2	1.1	1.1	1.3	1.0	1.0	0.9	0.8	0.9	1.0
G69.0	1.0	1.0	0.9	1.1	0.8	0.8	0.7	0.6	0.7	0.8
G70.0	0.7	0.8	0.7	0.8	0.6	0.6	0.5	0.4	0.5	0.6
G71.0	0.5	0.6	0.6	0.6	0.4	0.4	0.2	0.1	0.2	0.3
G72.0	0.3	0.5	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.1
G73.0	0.1	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Candlepower Table (Continue 2)

Unit: cd

G\C	C0.0	C22.5	C45.0	C67.5	C90.0	C112.5	C135.0	C157.5	C180.0	C202.5
G74.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G76.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G77.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G78.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G79.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G81.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G82.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G83.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G84.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G87.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G88.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G89.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Candlepower Table (Continue 3)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G0.0	1617.6	1617.6	1617.6	1617.6	1617.6	1617.6	1617.6			
G1.0	1609.5	1610.7	1614.2	1615.9	1618.8	1619.7	1620.7			
G2.0	1594.9	1598.3	1605.0	1608.3	1613.7	1615.0	1617.3			
G3.0	1575.4	1578.7	1588.8	1593.5	1601.9	1604.6	1609.6			
G4.0	1546.0	1554.2	1566.2	1572.6	1586.1	1590.2	1596.1			
G5.0	1512.3	1519.4	1536.4	1546.5	1562.1	1569.7	1575.2			
G6.0	1470.8	1478.5	1499.6	1512.7	1531.9	1540.1	1549.8			
G7.0	1423.5	1433.4	1459.3	1470.7	1492.8	1503.2	1516.5			
G8.0	1366.8	1385.4	1412.6	1423.8	1446.7	1458.7	1477.2			
G9.0	1306.1	1325.5	1359.2	1370.0	1393.2	1409.4	1429.5			
G10.0	1242.7	1262.3	1298.4	1311.2	1338.5	1356.0	1373.9			
G11.0	1175.9	1197.2	1229.2	1247.1	1279.4	1298.6	1317.0			
G12.0	1107.2	1128.7	1164.9	1178.6	1216.2	1233.2	1256.5			
G13.0	1036.3	1055.9	1089.2	1112.6	1150.7	1169.6	1190.0			
G14.0	964.5	986.7	1019.1	1044.2	1084.3	1103.3	1123.8			
G15.0	893.8	914.1	951.6	975.2	1016.7	1034.9	1055.6			
G16.0	824.1	844.7	879.1	906.4	947.2	966.6	984.2			
G17.0	754.1	773.3	811.9	839.9	881.5	898.5	916.0			
G18.0	686.9	707.8	743.9	770.3	810.1	831.0	848.4			
G19.0	622.8	639.5	672.8	703.9	745.2	766.2	778.5			
G20.0	560.9	576.1	609.6	640.8	683.9	700.9	709.7			
G21.0	504.0	516.3	546.4	579.5	618.0	639.1	649.7			
G22.0	452.6	462.4	486.2	521.2	558.8	578.3	582.2			
G23.0	402.5	411.4	433.6	466.8	501.4	521.4	523.0			
G24.0	358.2	367.9	388.0	414.7	449.0	467.9	467.6			
G25.0	317.5	327.1	344.2	369.2	400.6	416.2	415.2			
G26.0	278.3	288.2	306.0	328.4	357.9	370.4	369.8			
G27.0	242.4	252.3	267.3	289.8	317.2	331.6	329.6			
G28.0	212.6	220.6	237.1	255.2	281.7	296.6	292.0			
G29.0	186.8	193.5	208.8	223.5	251.2	265.2	259.3			
G30.0	164.3	169.1	184.4	196.4	222.8	234.8	228.6			
G31.0	142.7	147.6	162.4	172.4	196.0	209.0	201.0			
G32.0	111.4	118.6	145.0	150.4	172.3	182.5	176.6			
G33.0	91.9	94.6	112.3	123.4	151.3	162.0	155.0			
G34.0	75.6	78.9	92.2	94.0	118.6	135.0	124.2			
G35.0	63.5	66.2	77.4	77.4	93.5	105.1	97.4			
G36.0	53.9	56.6	64.9	65.1	76.4	86.6	79.7			

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Candlepower Table (Continue 4)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G37.0	46.8	49.1	54.7	56.3	63.0	71.2	66.2			
G38.0	41.1	42.8	46.8	48.6	53.9	59.2	55.3			
G39.0	35.8	37.4	40.8	42.6	46.4	50.3	47.5			
G40.0	31.1	32.3	35.5	37.5	40.9	43.6	41.1			
G41.0	27.1	28.2	30.9	32.7	36.0	38.4	35.6			
G42.0	23.5	24.6	26.9	28.6	31.9	33.3	30.4			
G43.0	20.5	21.6	23.4	25.1	27.9	29.4	26.7			
G44.0	17.9	18.8	20.5	21.9	24.4	25.7	22.9			
G45.0	15.6	16.2	17.9	19.4	21.5	22.4	19.7			
G46.0	13.1	13.7	15.6	17.0	18.9	19.6	16.7			
G47.0	11.1	11.9	13.4	14.8	16.5	17.0	14.6			
G48.0	9.4	10.0	11.3	12.6	14.2	14.5	12.2			
G49.0	8.0	8.5	9.7	10.6	12.0	12.4	10.3			
G50.0	6.9	7.3	8.2	9.1	10.3	10.4	8.8			
G51.0	6.0	6.3	7.0	7.7	8.7	8.9	7.5			
G52.0	5.3	5.6	6.1	6.5	7.5	7.5	6.3			
G53.0	4.8	4.9	5.4	5.8	6.4	6.4	5.5			
G54.0	4.3	4.5	4.8	5.1	5.6	5.6	4.9			
G55.0	4.0	4.0	4.3	4.5	4.9	4.9	4.4			
G56.0	3.5	3.7	3.9	4.0	4.4	4.5	3.9			
G57.0	3.3	3.4	3.5	3.7	3.9	3.9	3.6			
G58.0	3.0	3.1	3.2	3.4	3.6	3.6	3.3			
G59.0	2.8	2.9	3.0	3.1	3.3	3.2	3.1			
G60.0	2.6	2.6	2.7	2.9	3.0	2.9	2.7			
G61.0	2.3	2.5	2.5	2.7	2.8	2.6	2.5			
G62.0	2.2	2.3	2.4	2.5	2.6	2.5	2.3			
G63.0	2.1	2.1	2.2	2.3	2.4	2.3	2.1			
G64.0	1.9	1.9	2.0	2.1	2.2	2.1	2.0			
G65.0	1.6	1.7	1.7	1.9	2.0	1.9	1.7			
G66.0	1.5	1.5	1.5	1.7	1.9	1.6	1.5			
G67.0	1.2	1.3	1.3	1.5	1.7	1.4	1.3			
G68.0	1.1	1.1	1.2	1.3	1.5	1.3	1.2			
G69.0	0.9	0.9	1.0	1.2	1.3	1.1	1.0			
G70.0	0.6	0.7	0.8	1.0	1.2	0.9	0.7			
G71.0	0.5	0.6	0.6	0.8	0.9	0.7	0.5			
G72.0	0.2	0.3	0.4	0.6	0.8	0.5	0.3			
G73.0	0.0	0.1	0.2	0.3	0.5	0.3	0.1			

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector:

Candlepower Table (Continue 5)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G74.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0			
G75.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0			
G76.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G77.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G78.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G79.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G80.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G81.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G82.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G83.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G84.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G87.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G88.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G89.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
G90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

C Plane (°):0.0-360.0: 22.5
Test Lab: LISUN
Test Type: TYPE C
Temperature: 24.5
Operator: Joye

Gamma Plane (°):0.0-90.0:1.0
Test Device: LSG-5000
Distance: 8.300 m
Humidity: 60%
Inspector: