



Near Field Type C Goniophotometer (LSG-1900B)

Brochure

Global Office of Lisun Electronics Inc.

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Leader in Lighting & Electrical Test Instruments

Rev. 10/18/2019

1. System Configuration

A. Goniophotometric System:

- Goniometric Rotating Console:
LSG-1900B applied with Japanese Motor to keep the test accuracy to 0.10 degree
- Double Channel & High Precision Photometer
- Class A Constant Temperature Photo Detector (Option is Class L)
- Cross-beam Laser System for Calibrating
- English Measuring Software
- Two sets of luminaries Clamps: two sets of multi-function luminaries clamps
- Oversea Delivery Packing: all of the instruments and accessories will be packed to meet long distance sea delivery

B. SLS-150W DC Standard Light Intensity Lamp

C. Digital Power Meter:

LSG-19000B has LS2010 Digital Power Meter: High Accuracy to measure AC voltage, current, power, power factor and harmonic

D. DC3010 CC & CV DC Power Source: DC3010 output is 30V/10A, Option can be DC6010 (output is 60V/10A) and DC12010 (output is 120V/10A)

E. AC Power Source:

LSG-19000B has LSP-500VAS (Option is LSP-1KVAS)

F. CASE-19IN 19inch Standard Instruments Cabinet



Full View for Near Field Goniophotometer

Note: PC and Printer prepared by the customer (request at least one USB port)

2. Working Principle

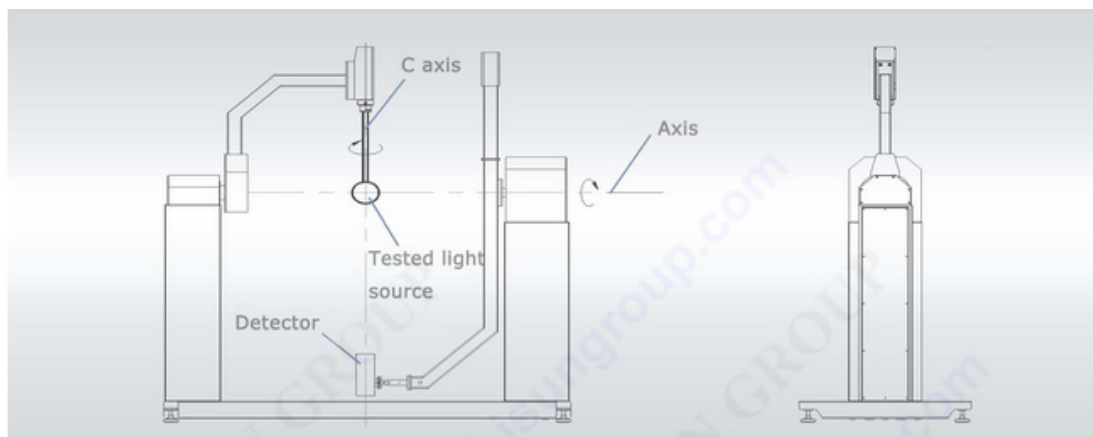
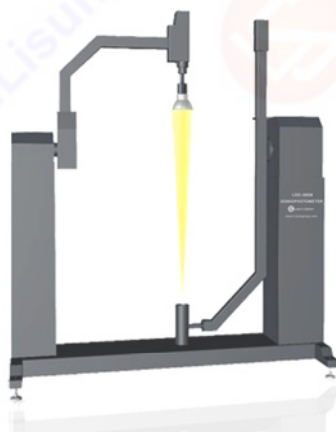


Figure Measurement Principle

LSG-1900B a high accuracy absolute measurement goniophotometer (C type) with no mirror, in accordance with the goniophotometer configuration from NIST U.S.A. Tests both the absolute spatial luminous intensity distribution directly. LSG-1900B can test luminaries rotating in the prescribed burning position and around the vertical axle and a detector rotates around the horizontal axle, meanwhile, a synchronous axle will rotate toward the opposite direction synchronously. The combined motion of the luminaries and detector permit luminous measurement at the direction of any horizontal or vertical angle without tilting the luminaries, therefore, the luminous intensity will be not variation.

3. System Functions



LSG-1900B Near Field Goniophotometer

LSG-1900B Goniophotometer is high precision automatic goniophotometric instrument for luminous intensity distribution measurements with facility for turning the light source. The LSG-1900B use a constant temperature detector, Japanese Motor which keeps high test accuracy. It is for industrial laboratory measurements the photometric data of luminaires.

Be utilized to measure photometric parameters of luminaires for LED road lighting fixture, room lighting fixture and projecting lighting fixture, such as spatial intensity distribution curve, spatial iso-intensity curve, intensity distribution curve on each section (represent by right-angled coordinates or polar coordinates, luminance limitation curve, luminaire efficiency, glare grade, effective beam angle, upward luminous flux ratio, downward luminous flux ratio, total luminous flux, effective luminous flux, utilization factor and electric parameters voltage, current, wattage, power factor and etc. The measured data meets IES standard format and can be applied for lighting design by lighting design software. The measurement system fully satisfies the requirement of lighting design work.



4. Specifications

- Meets the requirements of CIE, IEC, IES LM-79 & GB standards
- The luminaires will keep the burning point but not rotating during the testing
- Reaching many measurement ways such as B- β and C- γ
- The tested luminaires rotates around an angle of (γ) $\pm 180^\circ$ (or 0-360 $^\circ$) and the tested luminaires rotates around itself with an angle of (C) $\pm 180^\circ$ (or 0-360 $^\circ$)
- **Maximum size of tested luminaires: $\Phi 300\text{mm} \times 550\text{mm}$ (diameter*height)
Weight: 20kg max**
- Distance from lamp to detector: 1250mm
- The accuracy of angle: 0.1 $^\circ$, the resolution of angle is 0.01 $^\circ$
- Luminosity Testing Range: Illuminance 0.001lx~99,999lx; Light Intensity 1.0cd~10⁷cd(detector)
- Photometry Accuracy: CIE Class A (Class L is option)
- Testing Accuracy: 2%(Under Standard lamp); Stray Light: less than 0.1%
- English version software can run in Win7, Win8 or Win10

5. Laboratory Requirements

- The Dimension of Dark Room for Goniometric Rotating Console and Photometric Light Patch: W3.5m*H2.5m*L4m (Other size please check with LISUN engineer)
- Operator Room for controlling cabinet, computer and printer Dimension: No less than W2.0m*L3.0m
- The wall, ceiling and floor should be all coated with dull black paint or be covered by black cloth and black carpet.
- Air-conditioner should be set in the dark room to control the temperature around lamps to the standard value upon the CIE requirements
- LISUN engineer dept will submit the Lab Design support documents according to the customer's lab size after the formal purchase order was confirmed



6. Typical oversea market customers:

There are many world famous companies and lab institute choose Lisun Goniophotometer, Please get the reference customers' information from Lisun Group Oversea Sales Dept.

7. Design Standard of Device

The construction, technical parameter, test & operate steps as well as data processing software of LSG-1900B goniophotometer meet the following requirements:

1. CIE Pub. NO.70, "The Measurement of Absolute Luminous Intensity Distributions"
2. CIE DIV. II -TC10, "Photometry of lamps and lanterns"
3. IES LM-35-1989 , "IES Approved Method for Photometric Testing of Floodlights"
4. IES LM-31-1995, "IES Approved Method for Photometric Testing of Roadway lamps and lanterns"

5. IES-1971(73-96), "IES Practical Guide to Photometry"
6. GB/T 7002-2008, "luminosity measurement of flood lighting"
7. GB/T 9468-2008, "luminosity measurement of room luminaires"
8. GB/T 9468-2008, "luminosity measurement of road lighting"
9. IES 61341 "Method of Measurement of Center Beam Intensity and Beam Angle(s) of Reflector Lamp"
10. CIE Pub.NO.76, "Photometry-the CIE System of Physical Photometry"
11. 11.IES LM-79-08 SSL electrical and photometric measurement
12. 12. GB/T 24824-2009 Ordinary lighting LED module test method

8. Application Software

All control of the LSG-1900B goniophotometer operations can be realized by the software, including gonophotometer movement, data acquisition and processing, real-time display on screen, report print and etc, thus enabling the measurement easy and secure.

This system can export data files as following formats:

IESNA Files (*.ies)
EULUMDAT Files (*.ldt)
CIEBSE TM14 Files (*.cib)
CIEBSE TM14 Files (*.tm4)
CIE Files (*.cie)
DIN CEN Files (*.cen)
Excel File (*.csv)

This kind of format files can be transferred by other illumination and luminaire design software such as DiaLux

Application software can also implement essential calculation for lighting design as iso-illuminance distribution curve on a working plane, luminance limitation curve, luminaire efficiency, effective beam angle, upward luminous flux ratio, downward luminous flux ratio, effective luminous flux, utilization factor curve etc.

The Next Page is the Test Report by software

Report No.:

Test Time: 2013-06-18 12:03

Luminaire Property

Luminaire Manufacturer: UL
 Luminous Length (mm): 500
 Luminous Height (mm): 400
 Current: 0.893 A
 Power Factor: 0.973

Luminous Width (mm): 500
 Voltage: 220.1 V
 Power: 191.50 W

Photometric Results

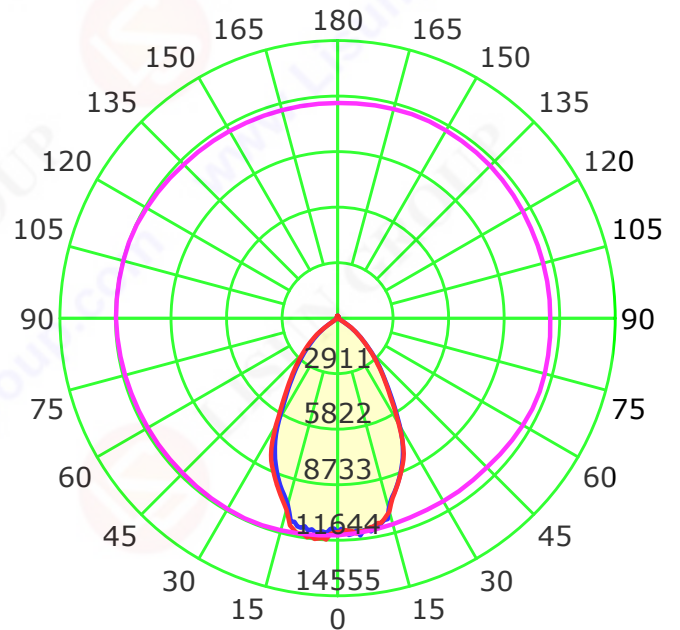
CIE Class: Direct
 Measurement Flux: 13418.9 lm
 Downward Ratio: 98%
 Field Angle: H105.6 V106.2
 Luminaire Efficacy Rating (LER): 70
 Max. Intensity: 11644.15 cd

Total Rated Lamp Lumens: 13418.9 lm
 Efficiency: 100%
 Upward Ratio: 2%
 Beam Angle: H63.4 V63.5
 Central Intensity: 11218.59 cd
 Pos of Max. Intensity: H247.5 V3

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

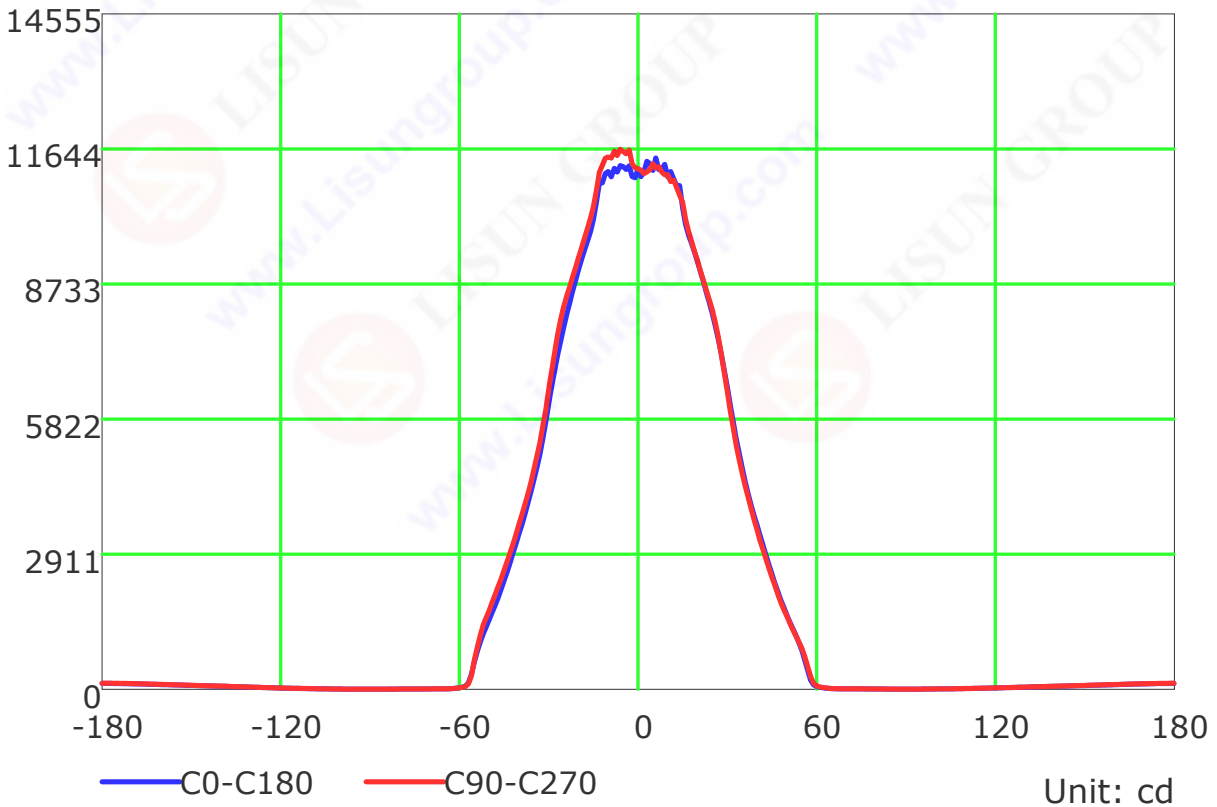
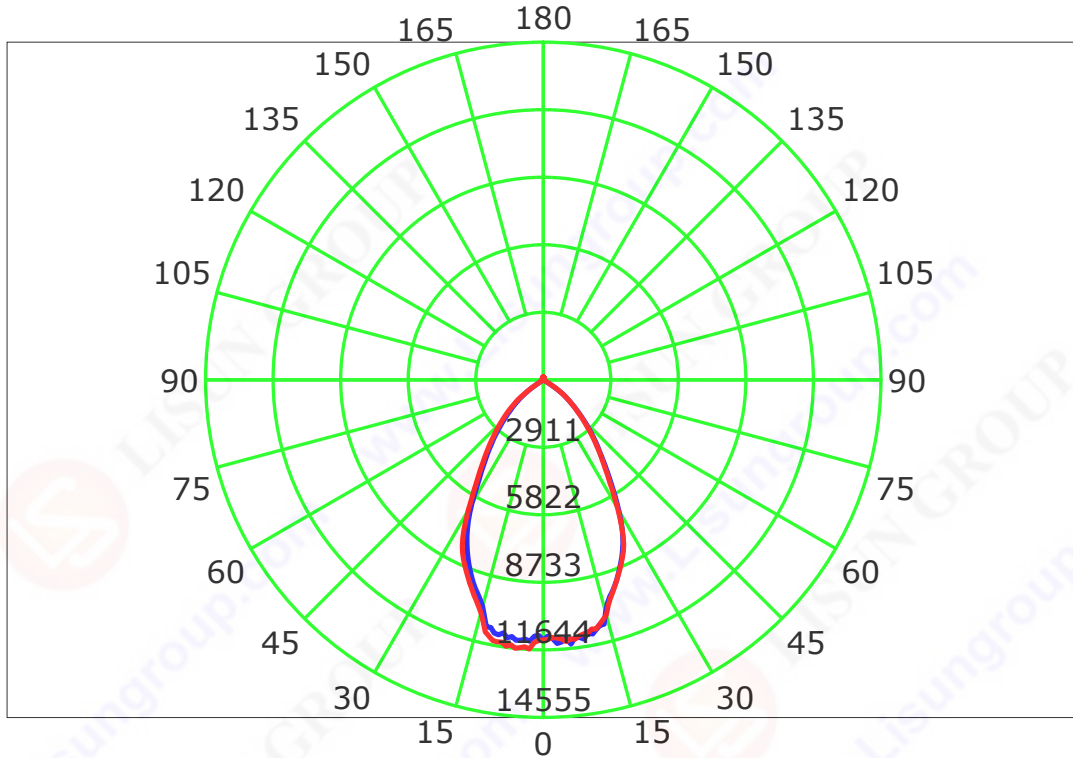
— C0-C180 — C90-C270 — G3

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:



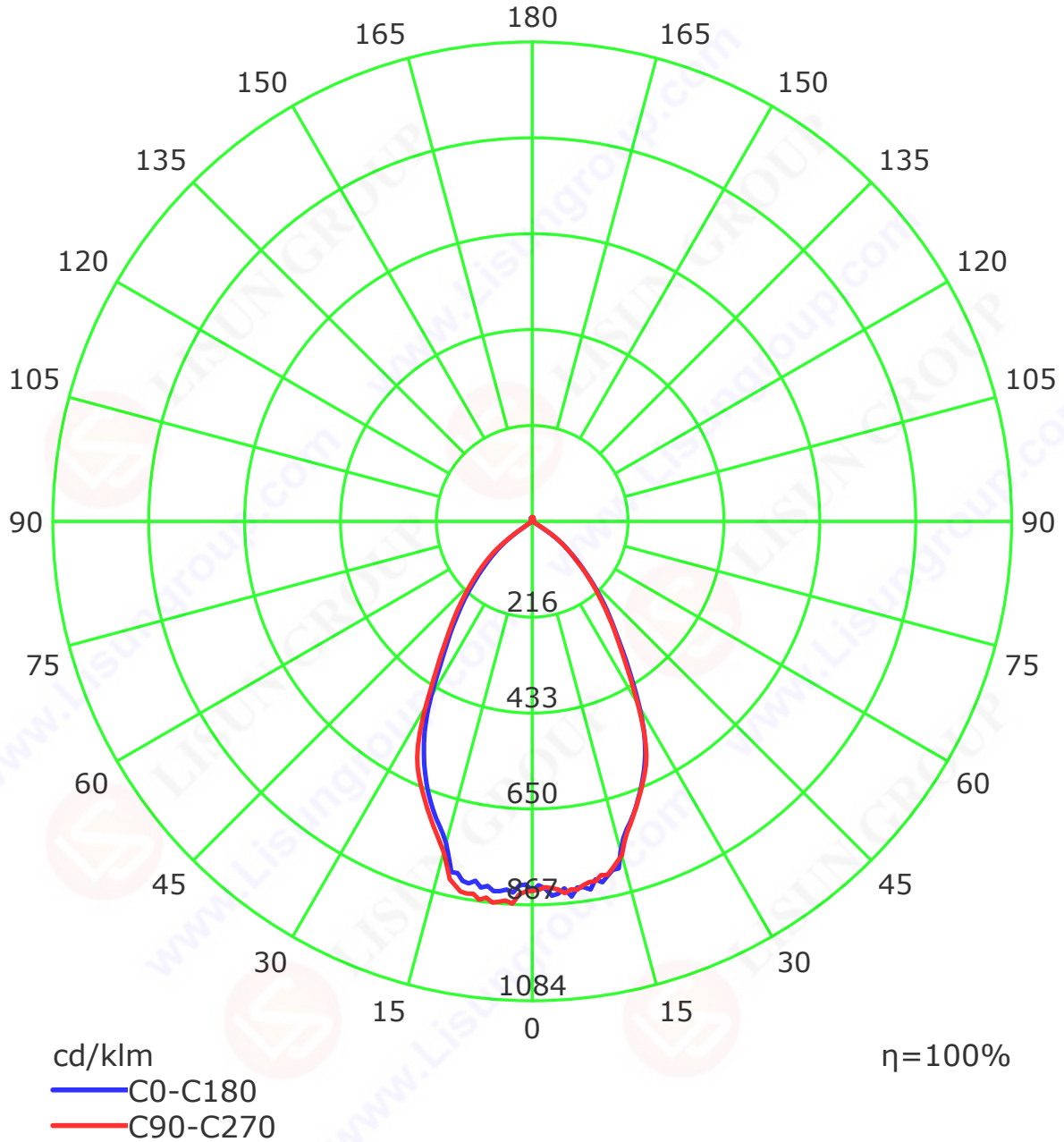
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 22.5
Test Lab: Lisun
Test Type: TYPE C
Temperature: 25 °C
Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
Test Device: LSG-1900B Goniophotometer
Distance: 2 m
Humidity: 65 %
Inspector:

Luminous Intensity Distribution Curve(cd/klm)



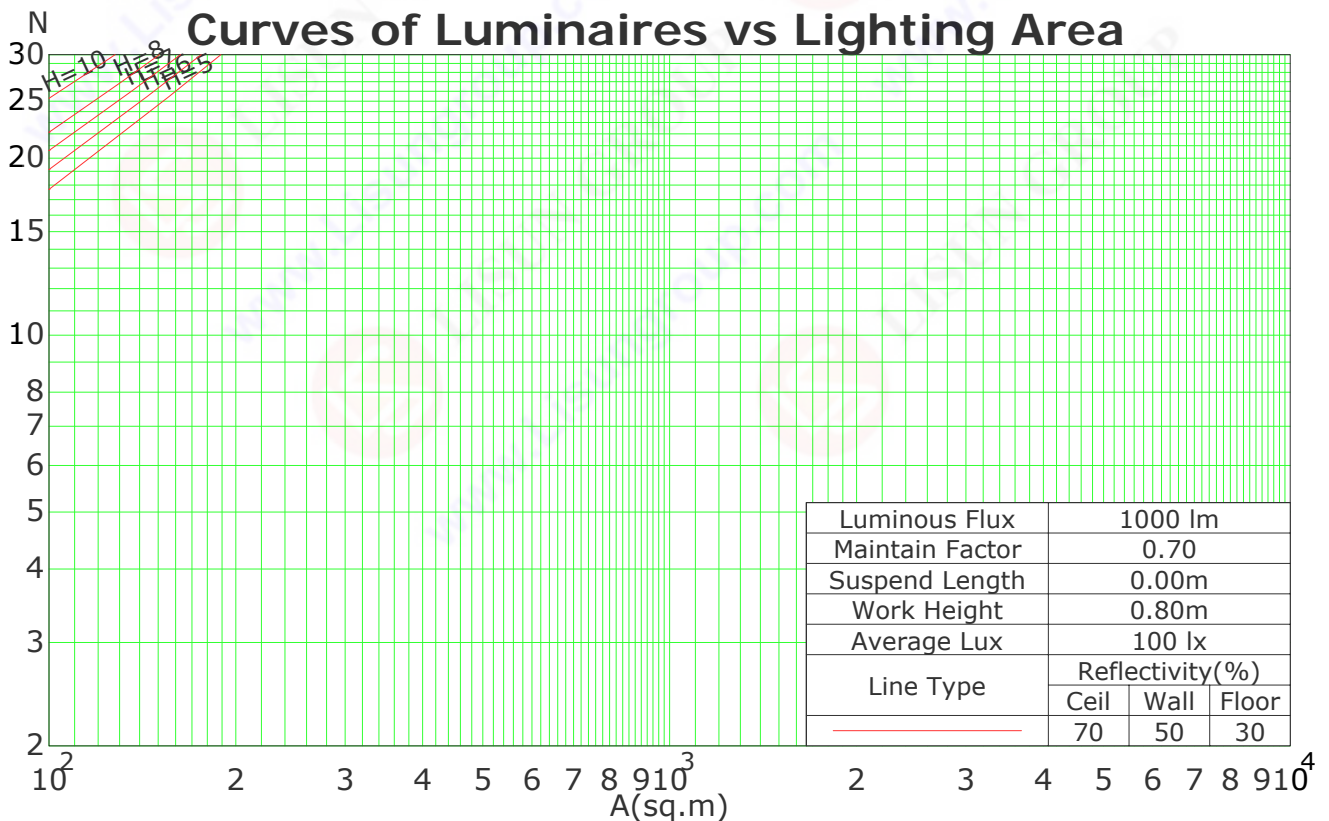
C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
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Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

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
RCCR	RF = 0.2																	
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	112	109	107	104	110	107	105	102	103	101	99	99	97	96	95	94	92	91
2	106	101	96	92	104	99	95	91	95	92	89	92	89	87	89	87	85	83
3	100	93	87	83	98	91	86	82	88	84	80	85	82	79	83	80	77	76
4	94	86	79	75	92	84	79	74	82	77	73	79	75	72	77	74	71	69
5	88	79	73	68	87	78	72	67	76	71	67	74	69	66	72	68	65	63
6	83	73	67	62	82	72	66	62	71	65	61	69	64	60	67	63	60	58
7	79	68	62	57	77	67	61	57	66	60	56	65	60	56	63	59	55	54
8	74	64	57	53	73	63	57	52	62	56	52	60	55	52	59	55	51	50
9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	51	48	46
10	67	56	50	45	65	55	49	45	54	49	45	53	48	45	53	48	45	43

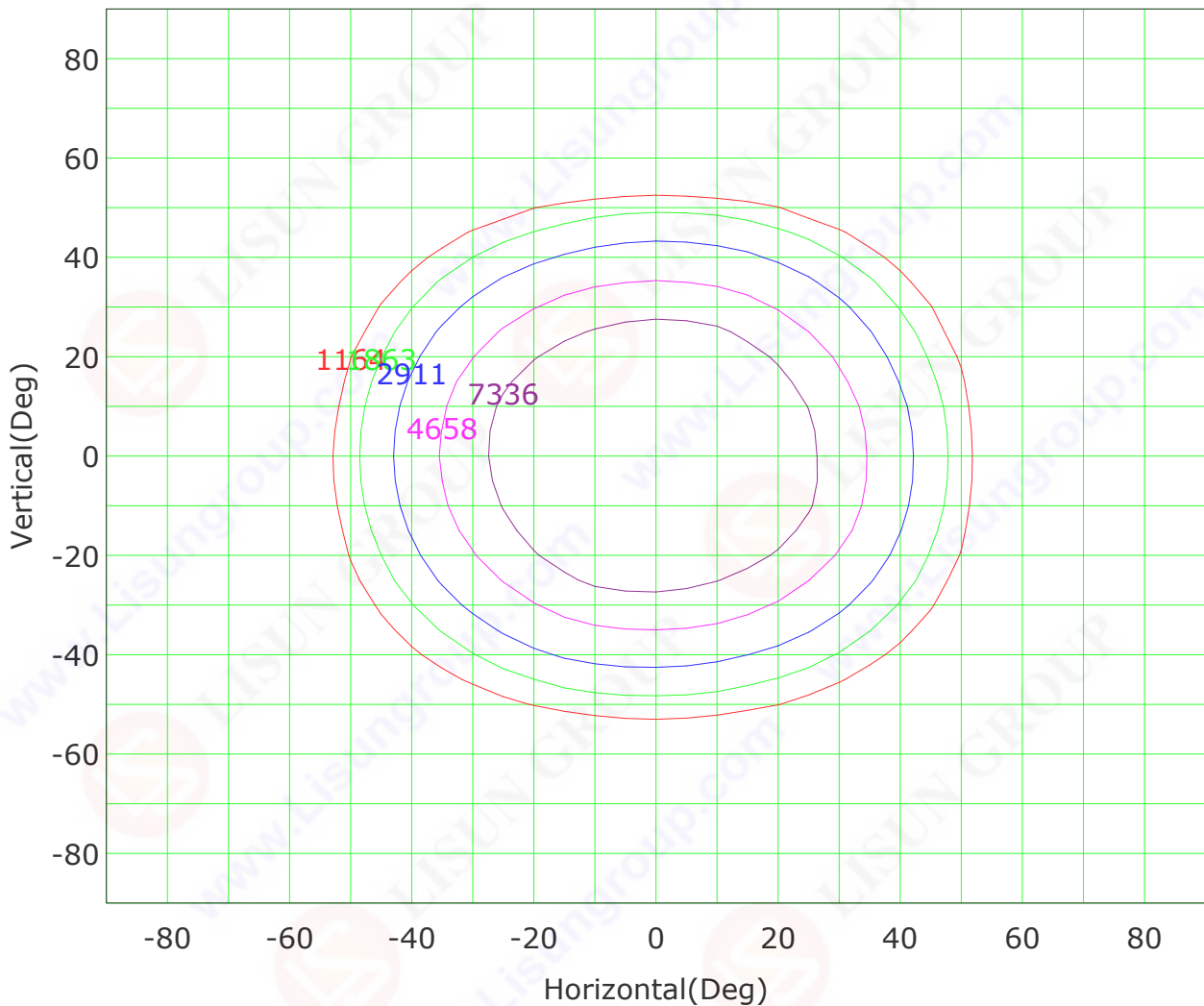
Spacing Criteria (0-180): 0.97
 Spacing Criteria (90-270): 0.99
 Spacing Criteria (Diagonal): 0.96



C Plane (°): 0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°): 0.0-180.0: 1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Isocandela (rectangle)



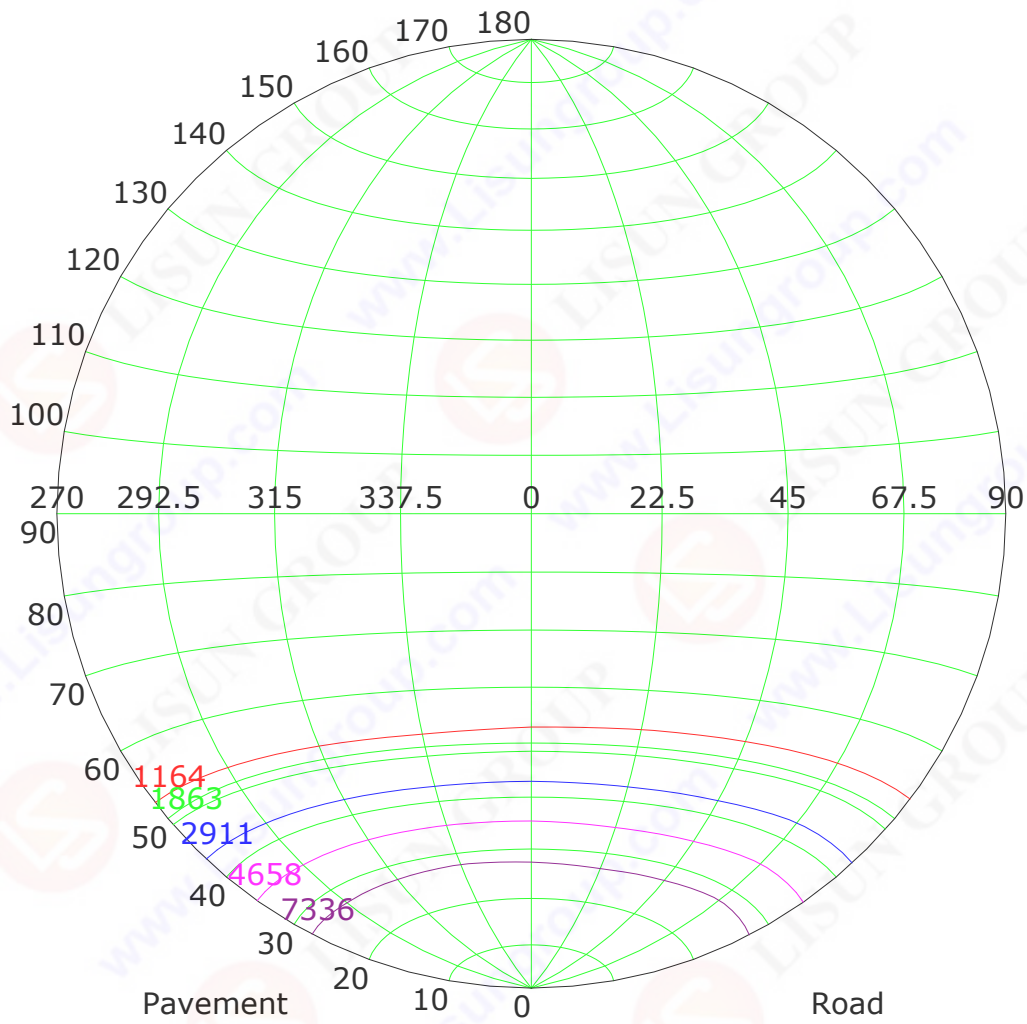
Imax (100%): 11644 cd

- | | |
|-------------------|--------------------|
| — (10%): 1164 cd | — (16%): 1863 cd |
| — (25%): 2911 cd | — (40%): 4658 cd |
| — (63%): 7336 cd | — (100%): 11644 cd |

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

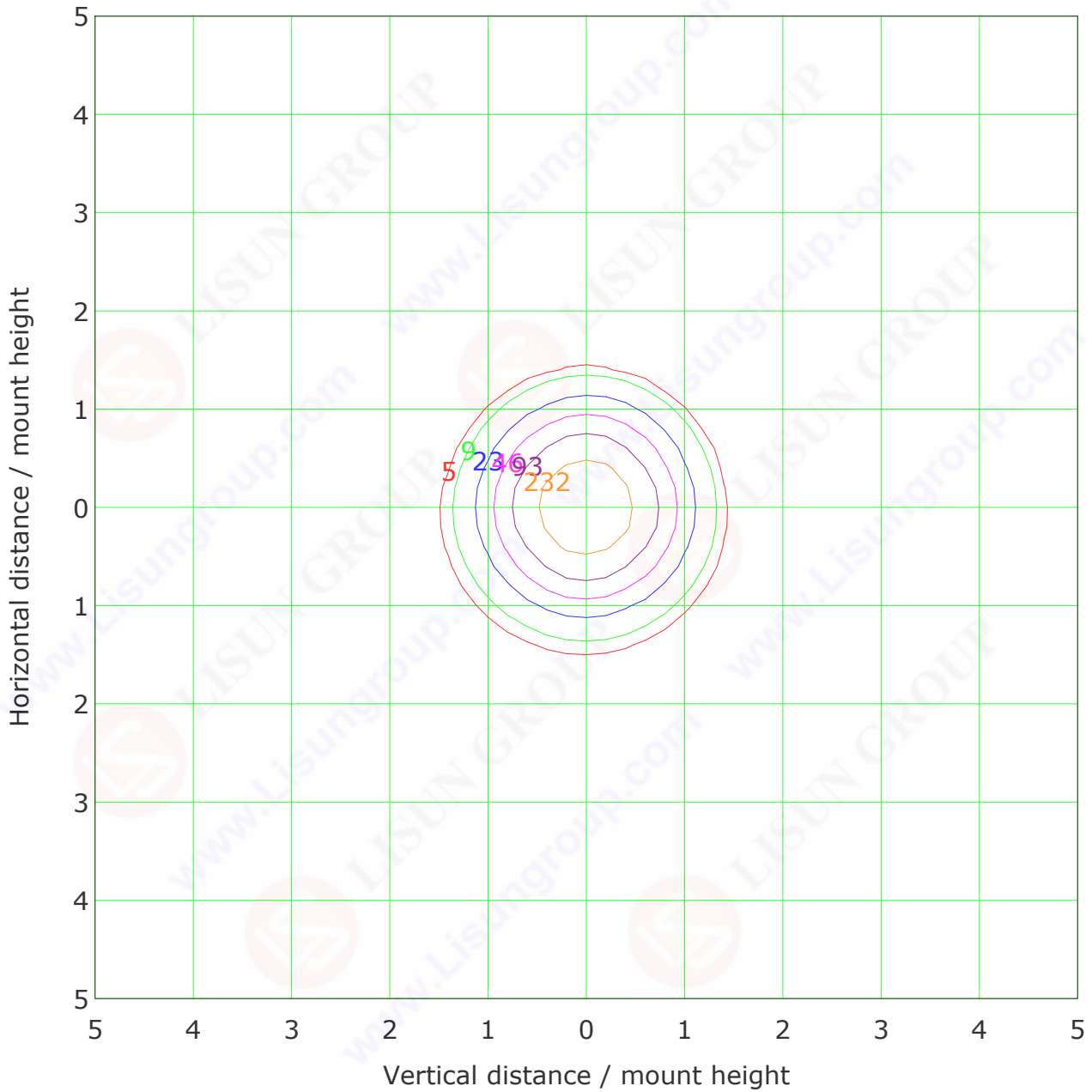
Isocandela (sphere)



Imax (100%): 11644 cd

- | | |
|-------------------|--------------------|
| — (10%): 1164 cd | — (16%): 1863 cd |
| — (25%): 2911 cd | — (40%): 4658 cd |
| — (63%): 7336 cd | — (100%): 11644 cd |

IsoLux Plot



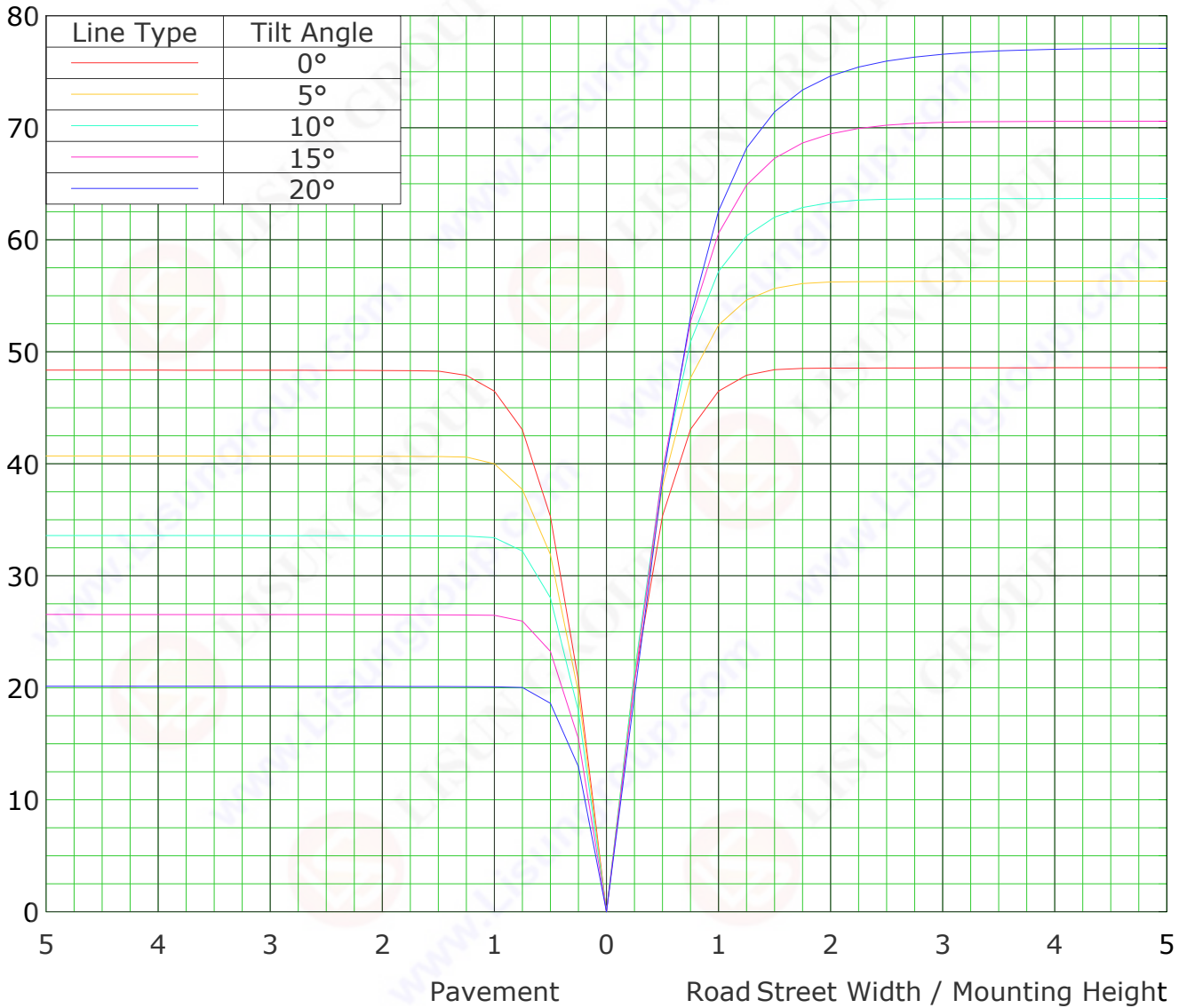
<p>Mounting Height: 5.0m</p> <p>— (1%): 4.6 lx</p> <p>— (5%): 23.2 lx</p> <p>— (20%): 92.8 lx</p> <p>— (100%): 463.9 lx</p>	<p>Max Lux(100%): 463.9 lx</p> <p>— (2%): 9.3 lx</p> <p>— (10%): 46.4 lx</p> <p>— (50%): 231.9 lx</p>
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C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Roadway CU Curve

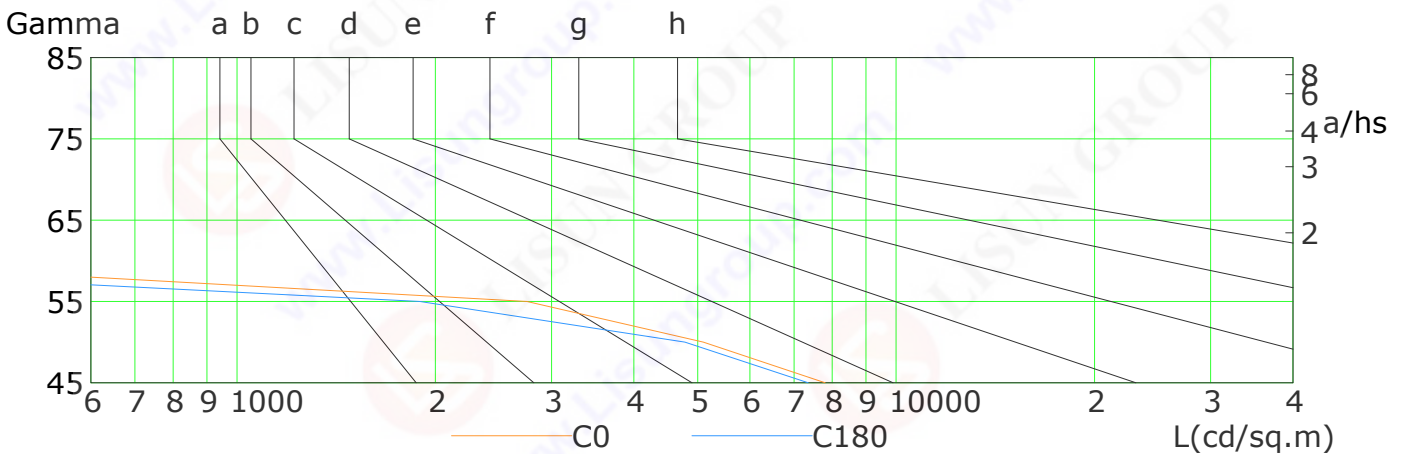
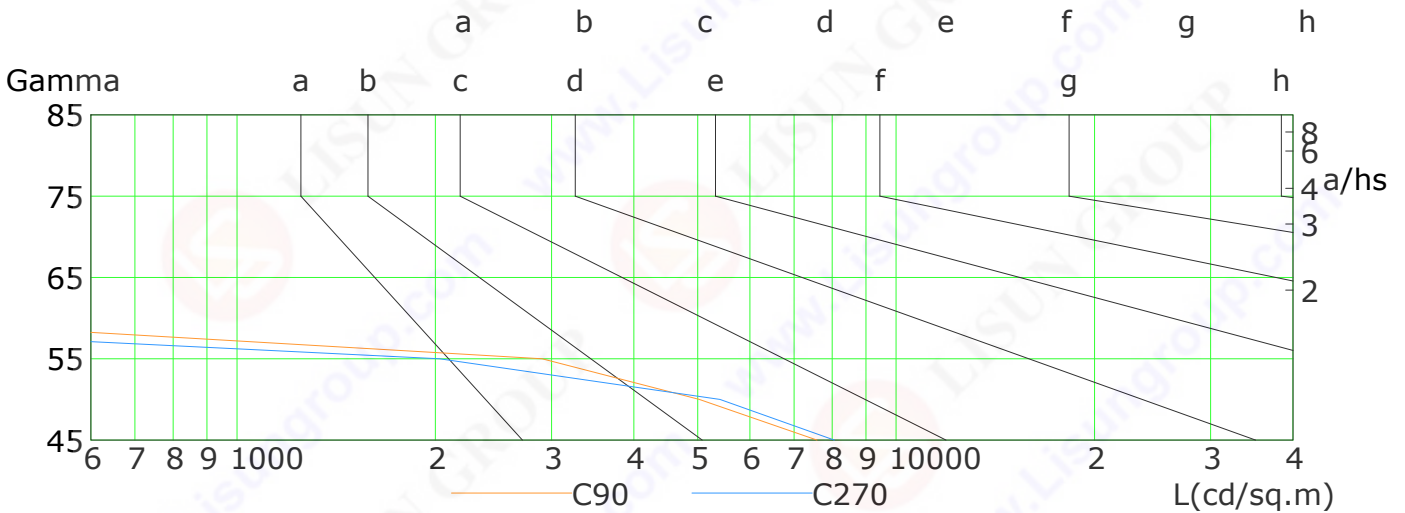
Efficiency(%)


 C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

 Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
		2000	1000	500	<=300				
1.15	A								
1.50	B								
1.85	C								
2.20	D								
2.55	E								

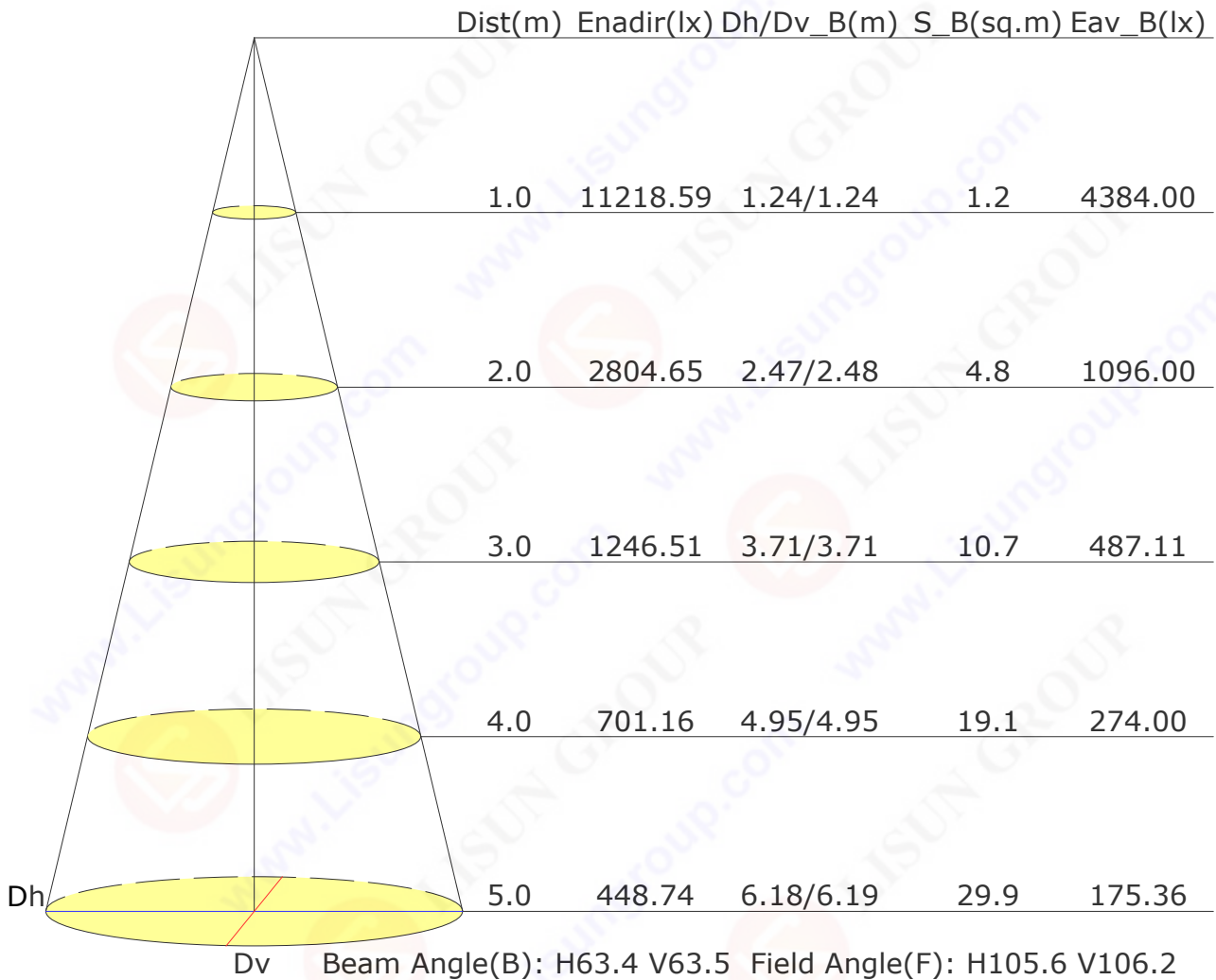


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	7803	5099	2753	218	59	46	41	36	29
C90	7584	5027	2903	257	69	47	41	35	33
C180	7353	4782	1894	117	39	37	33	33	28
C270	8057	5403	2029	113	38	36	33	33	24

C Plane (°):0.0-360.0: 22.5
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 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

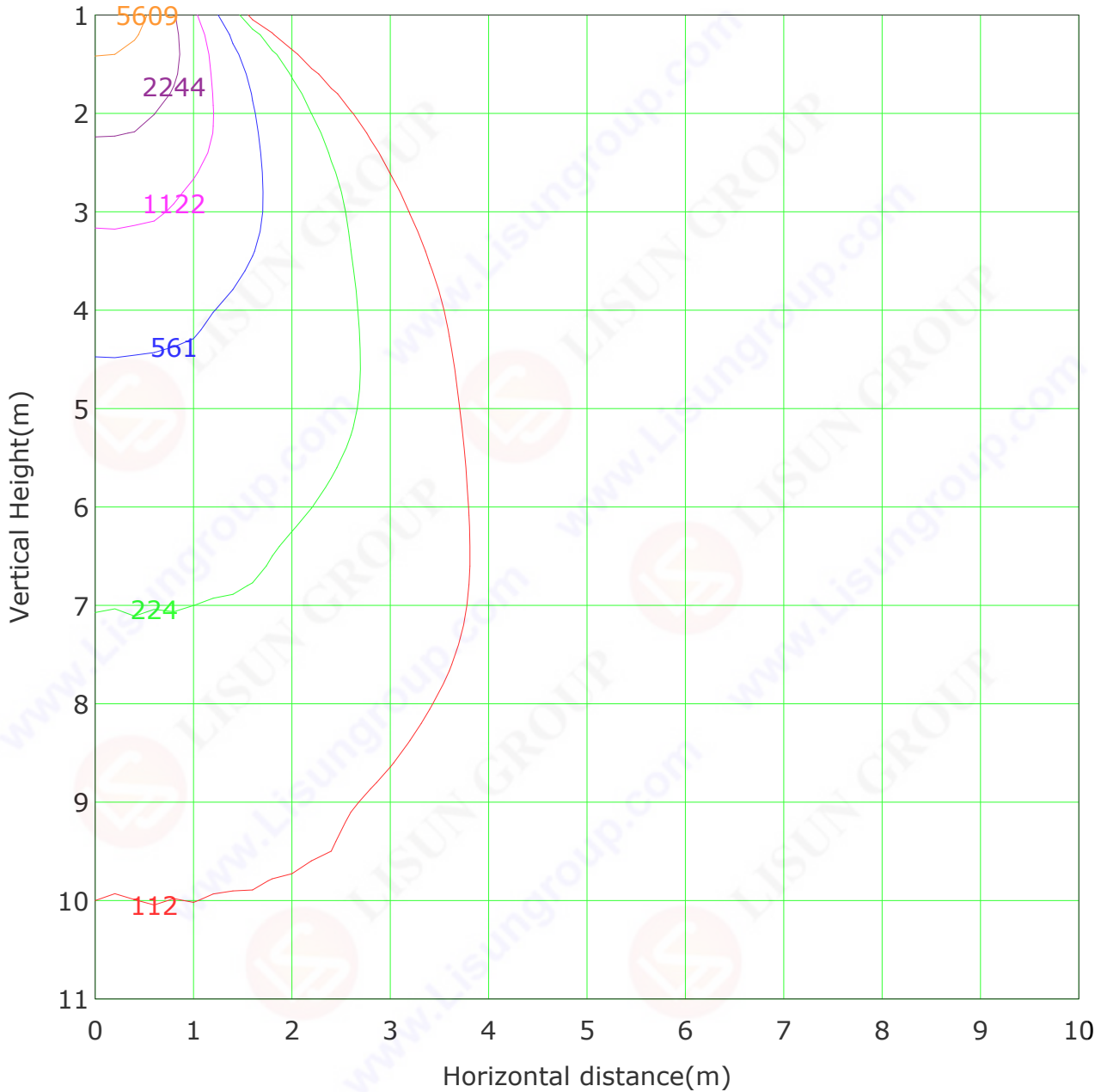
Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2m
 Humidity: 65 %
 Inspector:

Illuminance at a Distance





Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 11218.6 lx
 (1%): 112.2 lx (2%): 224.4 lx
 (5%): 560.9 lx (10%): 1121.9 lx
 (20%): 2243.7 lx (50%): 5609.3 lx
 (100%): 11218.6 lx

C Plane (°): 0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°): 0.0-180.0: 1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Area Flux Table

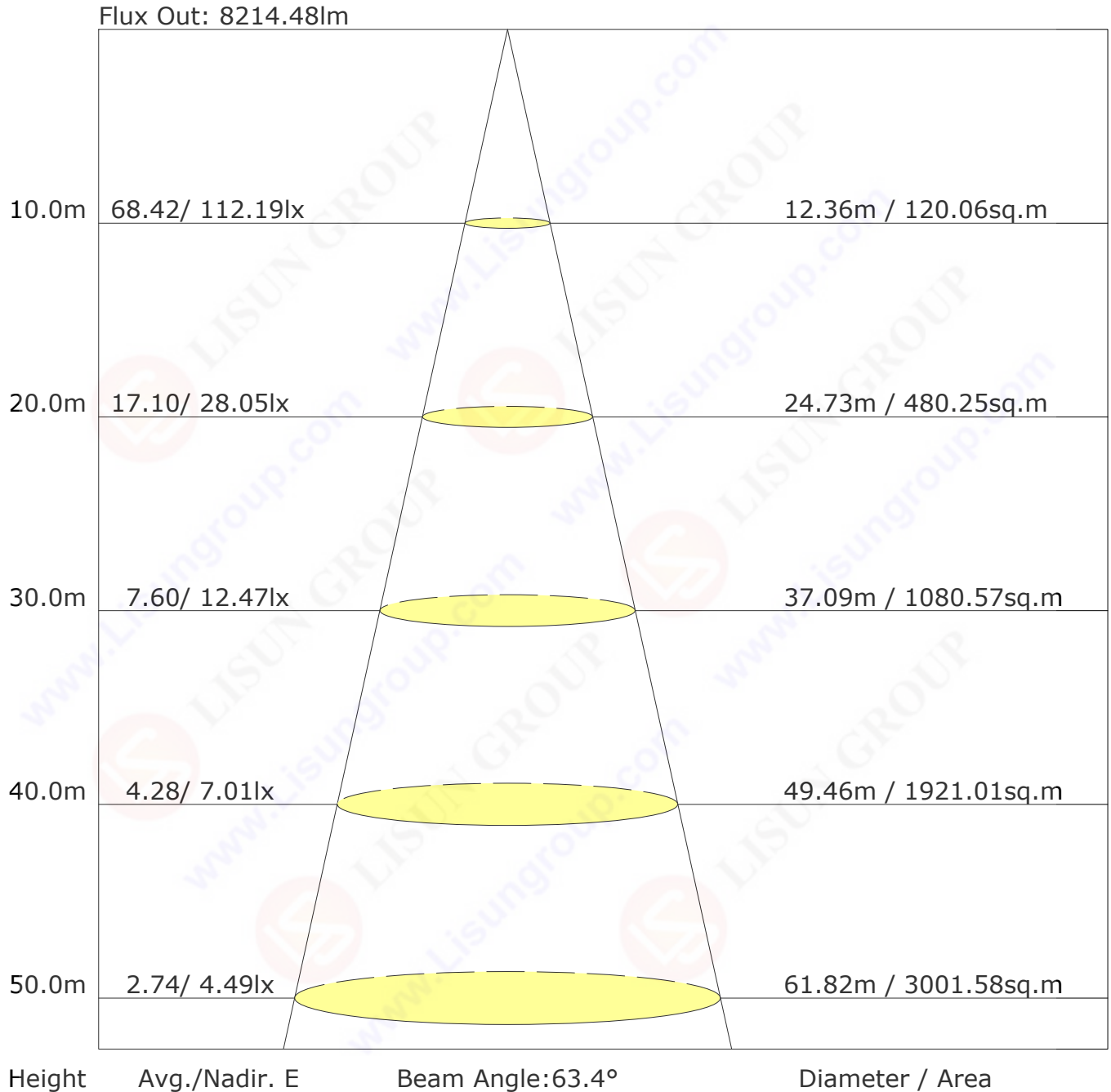
Unit: lm

		Vertical plane																				
		-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	Flux(E)	Flux(T)
Horizontal plane	-90	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.2	0.1	0.0	0.3
	-80	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.1	0.0	0.0	1.0
	-70	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.1	0.0	0.0	2.3
	-60	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.3	0.2	13.5	49.4
	-50	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.6	0.5	0.4	0.3	261.2	294.2
	-40	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	683.1	709.0
	-30	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	1129.2	1316.0
	-20	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	1875.0	2089.8
	-10	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	2227.0	2250.0
	0	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	2236.0	2259.0
	10	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	3894.0	1919.0
	20	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	7318.0	2345.0
	30	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	9707.0	2735.0
	40	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	2276.5	6311.0
	50	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	21.1	62.9
	60	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	0.0	2.9
	70	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	0.0	1.2
	80	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	0.0	0.3
90	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.4	0.0	0.3	
																					12808	13158

 C Plane (°): 0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

 Gamma Plane (°): 0.0-180.0: 1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

The Average Illuminance Effective Figure



C Plane (°): 0.0-360.0: 22.5
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 Inspector:

UGR Table

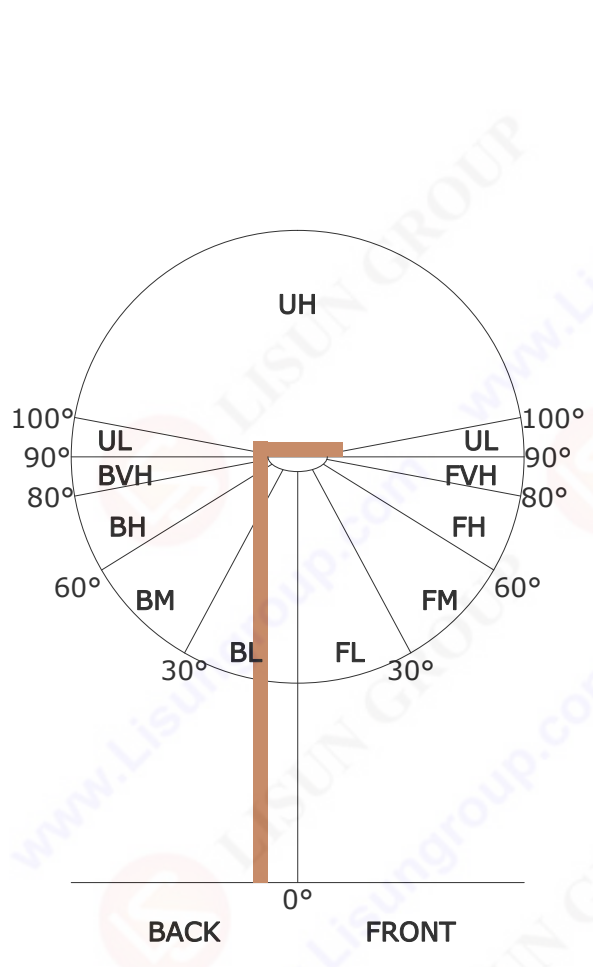
Reflectance:										
Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
X=2H Y=2H	-4.9	-3.8	-4.5	-3.4	-3.1	-2.9	-1.8	-2.5	-1.4	-1.0
3H	-5.1	-4.1	-4.6	-3.7	-3.3	-3.0	-2.0	-2.6	-1.7	-1.3
4H	-5.1	-4.2	-4.7	-3.8	-3.4	-3.1	-2.2	-2.7	-1.8	-1.4
6H	-5.2	-4.4	-4.8	-4.0	-3.5	-3.2	-2.4	-2.7	-2.0	-1.5
8H	-5.3	-4.5	-4.8	-4.1	-3.6	-3.2	-2.5	-2.8	-2.0	-1.6
12H	-5.3	-4.6	-4.8	-4.2	-3.7	-3.3	-2.6	-2.8	-2.1	-1.7
X=4H Y=2H	-5.1	-4.2	-4.7	-3.9	-3.4	-3.1	-2.2	-2.7	-1.8	-1.4
3H	-5.3	-4.6	-4.9	-4.1	-3.7	-3.3	-2.6	-2.8	-2.1	-1.7
4H	-5.4	-4.8	-4.9	-4.3	-3.8	-3.4	-2.7	-2.9	-2.3	-1.8
6H	-5.5	-4.9	-5.0	-4.5	-3.9	-3.5	-2.9	-3.0	-2.4	-1.9
8H	-5.5	-5.0	-5.0	-4.5	-4.0	-3.5	-3.0	-3.0	-2.5	-2.0
12H	-5.6	-5.2	-5.1	-4.6	-4.1	-3.6	-3.1	-3.1	-2.6	-2.1
X=8H Y=4H	-5.6	-5.1	-5.1	-4.6	-4.0	-3.5	-3.0	-3.0	-2.5	-2.0
6H	-5.7	-5.2	-5.1	-4.7	-4.2	-3.7	-3.2	-3.1	-2.7	-2.2
8H	-5.7	-5.4	-5.2	-4.8	-4.3	-3.7	-3.3	-3.2	-2.8	-2.2
12H	-5.8	-5.4	-5.2	-4.9	-4.3	-3.8	-3.4	-3.2	-2.9	-2.3
X=12H Y=4H	-5.6	-5.2	-5.1	-4.7	-4.1	-3.6	-3.2	-3.1	-2.6	-2.1
6H	-5.7	-5.4	-5.2	-4.9	-4.3	-3.7	-3.3	-3.2	-2.8	-2.2
8H	-5.8	-5.4	-5.2	-4.9	-4.3	-3.8	-3.4	-3.2	-2.9	-2.3

Calculate in accordance with CIE 190:2010

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance:2 m
 Humidity: 65 %
 Inspector:

FLUX DISTRIBUTION TABLE BASED ON THE IESNA LUMINAIRE CLASSIFICATION SYSTEM

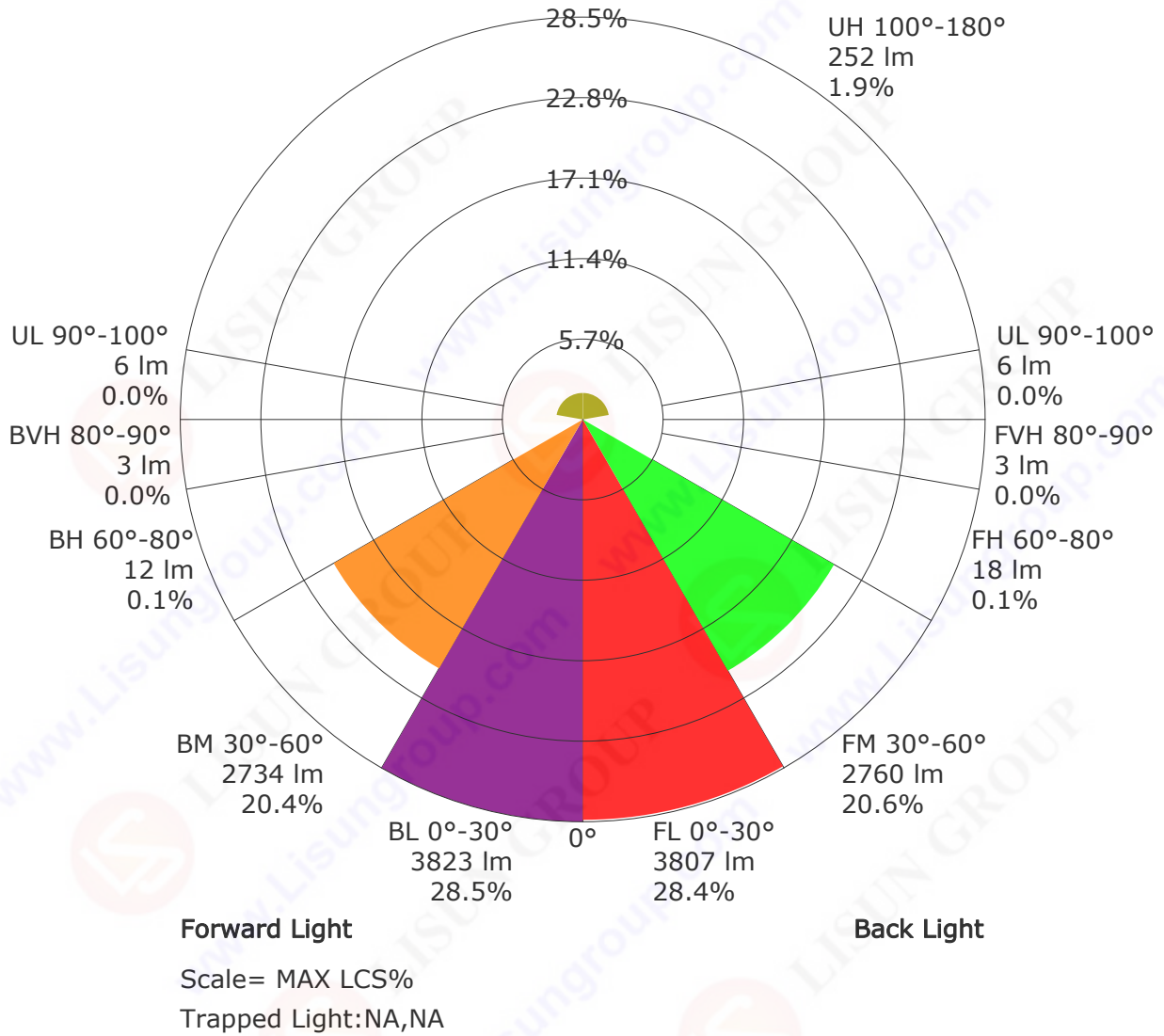
	ZONE	LUMENS	% LAMP LUMENS
	FORWARD LIGHT	6587	49.1
	FL (0°-30°)	3807	28.4
	FM (30°-60°)	2760	20.6
	FH (60°-80°)	18	0.1
	FVH (80°-90°)	3	0.0
	BACK LIGHT	6573	49.0
	BL (0°-30°)	3823	28.5
	BM (30°-60°)	2734	20.4
	BH (60°-80°)	12	0.1
	BVH (80°-90°)	3	0.0
	UP LIGHT	259	1.9
	UL (90°-100°)	6	0.0
	UH (100°-180°)	252	1.9
	TRAPPED LIGHT	NA	NA

BUG(Backlight,Uplight,Glare) Rating Base On TM-15-07	
Asymmetrical Luminaire Types (Type I,II,III,IV)	B4 U3 G0
Quadrilateral Symmetrical Luminaire Types (Type V,Area Light)	B4 U3 G0

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

LCS Graph



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	0.75	0.84	0.89	0.93	0.98	1.02	1.04	1.07	1.09	
	0.30		0.69	0.78	0.84	0.89	0.94	0.98	1.01	1.04	1.07	
	0.20		0.65	0.74	0.80	0.85	0.91	0.95	0.98	1.02	1.05	
0.50	0.50	0.20	0.73	0.82	0.87	0.91	0.95	0.98	1.00	1.03	1.04	
	0.30		0.68	0.77	0.83	0.87	0.92	0.95	0.98	1.01	1.03	
	0.20		0.64	0.73	0.79	0.83	0.89	0.93	0.95	0.99	1.01	
0.30	0.50	0.20	0.72	0.80	0.85	0.88	0.92	0.95	0.97	0.99	1.00	
	0.30		0.67	0.76	0.81	0.85	0.90	0.93	0.95	0.97	0.99	
	0.20		0.64	0.72	0.78	0.82	0.87	0.91	0.93	0.96	0.98	
0.00	0.00	0.00	0.62	0.70	0.75	0.79	0.84	0.87	0.89	0.91	0.93	
Rating:192W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980												

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	0.73	0.58	0.48	0.41	0.32	0.26	0.22	0.17	0.14	
	0.30		0.61	0.49	0.42	0.36	0.29	0.24	0.20	0.16	0.13	
	0.20		0.52	0.43	0.37	0.32	0.26	0.22	0.19	0.15	0.12	
0.50	0.50	0.20	0.69	0.54	0.45	0.38	0.30	0.28	0.20	0.16	0.13	
	0.30		0.59	0.47	0.40	0.34	0.27	0.22	0.19	0.15	0.12	
	0.20		0.51	0.42	0.36	0.31	0.25	0.21	0.18	0.14	0.12	
0.30	0.50	0.20	0.66	0.52	0.42	0.36	0.28	0.22	0.19	0.14	0.12	
	0.30		0.57	0.45	0.38	0.33	0.26	0.21	0.18	0.14	0.11	
	0.20		0.50	0.41	0.34	0.30	0.24	0.20	0.17	0.13	0.11	
0.00	0.00	0.00	0.37	0.29	0.23	0.20	0.15	0.12	0.10	0.08	0.06	
Rating:192W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980												

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	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.22	0.23
	0.30		0.11	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.21
	0.20		0.07	0.09	0.11	0.12	0.14	0.16	0.17	0.19	0.20
0.50	0.50	0.20	0.15	0.17	0.18	0.18	0.19	0.20	0.21	0.21	0.22
	0.30		0.11	0.12	0.14	0.15	0.17	0.18	0.19	0.20	0.21
	0.20		0.07	0.09	0.11	0.12	0.14	0.16	0.17	0.18	0.19
0.30	0.50	0.20	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.21	0.21
	0.30		0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19	0.20
	0.20		0.07	0.09	0.11	0.12	0.14	0.15	0.16	0.18	0.19
0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Rating:192W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980											

Zonal Lumen

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	11206.5	10.7	10.7	0.08	0.08
1.0-2.0	11190.0	32.1	42.8	0.24	0.32
2.0-3.0	11270.1	53.9	96.8	0.40	0.72
3.0-4.0	11351.4	76.0	172.7	0.57	1.29
4.0-5.0	11361.4	97.8	270.5	0.73	2.02
5.0-6.0	11382.0	119.6	390.1	0.89	2.91
6.0-7.0	11349.7	140.9	531.0	1.05	3.96
7.0-8.0	11313.2	161.9	693.0	1.21	5.16
8.0-9.0	11274.9	182.8	875.7	1.36	6.53
9.0-10.0	11228.9	203.2	1078.9	1.51	8.04
10.0-11.0	11202.5	223.9	1302.8	1.67	9.71
11.0-12.0	11125.9	243.2	1546.1	1.81	11.52
12.0-13.0	11019.3	261.5	1807.6	1.95	13.47
13.0-14.0	10833.3	277.3	2084.9	2.07	15.54
14.0-15.0	10535.6	289.3	2374.2	2.16	17.69
15.0-16.0	10221.9	299.6	2673.8	2.23	19.93
16.0-17.0	9951.9	310.0	2983.7	2.31	22.24
17.0-18.0	9728.8	320.8	3304.5	2.39	24.63
18.0-19.0	9521.3	331.3	3635.8	2.47	27.09
19.0-20.0	9314.5	341.0	3976.8	2.54	29.64
20.0-21.0	9104.0	349.6	4326.4	2.61	32.24
21.0-22.0	8890.6	357.3	4683.8	2.66	34.90
22.0-23.0	8676.0	364.1	5047.8	2.71	37.62
23.0-24.0	8455.4	369.7	5417.6	2.76	40.37
24.0-25.0	8218.0	373.7	5791.3	2.79	43.16
25.0-26.0	7952.1	375.4	6166.7	2.80	45.96
26.0-27.0	7653.5	374.5	6541.2	2.79	48.75
27.0-28.0	7318.2	370.6	6911.8	2.76	51.51
28.0-29.0	6948.5	363.6	7275.4	2.71	54.22
29.0-30.0	6561.0	354.3	7629.6	2.64	56.86
30.0-31.0	6167.9	343.3	7972.9	2.56	59.42
31.0-32.0	5786.8	331.6	8304.5	2.47	61.89
32.0-33.0	5430.5	320.0	8624.5	2.38	64.27
33.0-34.0	5104.2	308.9	8933.4	2.30	66.57
34.0-35.0	4807.2	298.6	9232.0	2.23	68.80
35.0-36.0	4531.4	288.6	9520.6	2.15	70.95

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Zonal Lumen (Continue 1)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	4275.5	278.9	9799.5	2.08	73.03
37.0-38.0	4034.6	269.3	10068.8	2.01	75.03
38.0-39.0	3802.2	259.6	10328.4	1.93	76.97
39.0-40.0	3578.3	249.6	10577.9	1.86	78.83
40.0-41.0	3362.8	239.5	10817.4	1.78	80.61
41.0-42.0	3150.5	228.9	11046.4	1.71	82.32
42.0-43.0	2943.0	218.0	11264.4	1.62	83.94
43.0-44.0	2738.5	206.7	11471.1	1.54	85.48
44.0-45.0	2538.4	195.1	11666.2	1.45	86.94
45.0-46.0	2348.5	183.7	11849.9	1.37	88.31
46.0-47.0	2168.3	172.5	12022.4	1.29	89.59
47.0-48.0	1997.5	161.5	12183.9	1.20	90.80
48.0-49.0	1836.4	150.8	12334.7	1.12	91.92
49.0-50.0	1679.5	140.0	12474.8	1.04	92.96
50.0-51.0	1527.2	129.2	12604.0	0.96	93.93
51.0-52.0	1376.4	118.1	12722.1	0.88	94.81
52.0-53.0	1218.5	106.0	12828.1	0.79	95.60
53.0-54.0	1041.4	91.8	12919.9	0.68	96.28
54.0-55.0	837.5	74.8	12994.7	0.56	96.84
55.0-56.0	609.3	55.1	13049.8	0.41	97.25
56.0-57.0	388.5	35.5	13085.3	0.26	97.51
57.0-58.0	221.4	20.5	13105.8	0.15	97.67
58.0-59.0	119.6	11.2	13116.9	0.08	97.75
59.0-60.0	68.5	6.5	13123.4	0.05	97.80
60.0-61.0	45.4	4.3	13127.7	0.03	97.83
61.0-62.0	33.4	3.2	13131.0	0.02	97.85
62.0-63.0	25.4	2.5	13133.4	0.02	97.87
63.0-64.0	19.8	1.9	13135.4	0.01	97.89
64.0-65.0	16.1	1.6	13137.0	0.01	97.90
65.0-66.0	14.0	1.4	13138.4	0.01	97.91
66.0-67.0	12.8	1.3	13139.7	0.01	97.92
67.0-68.0	12.1	1.2	13140.9	0.01	97.93
68.0-69.0	11.8	1.2	13142.1	0.01	97.94
69.0-70.0	11.5	1.2	13143.3	0.01	97.95
70.0-71.0	11.3	1.2	13144.4	0.01	97.95
71.0-72.0	10.9	1.1	13145.6	0.01	97.96

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Zonal Lumen (Continue 2)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	10.5	1.1	13146.7	0.01	97.97
73.0-74.0	10.3	1.1	13147.8	0.01	97.98
74.0-75.0	10.0	1.1	13148.8	0.01	97.99
75.0-76.0	9.7	1.0	13149.8	0.01	98.00
76.0-77.0	9.2	1.0	13150.8	0.01	98.00
77.0-78.0	8.8	0.9	13151.8	0.01	98.01
78.0-79.0	8.6	0.9	13152.7	0.01	98.02
79.0-80.0	8.3	0.9	13153.6	0.01	98.02
80.0-81.0	7.9	0.9	13154.4	0.01	98.03
81.0-82.0	7.5	0.8	13155.3	0.01	98.04
82.0-83.0	7.1	0.8	13156.0	0.01	98.04
83.0-84.0	6.7	0.7	13156.8	0.01	98.05
84.0-85.0	6.2	0.7	13157.4	0.01	98.05
85.0-86.0	5.7	0.6	13158.0	0.00	98.06
86.0-87.0	5.2	0.6	13158.6	0.00	98.06
87.0-88.0	4.7	0.5	13159.1	0.00	98.06
88.0-89.0	4.4	0.5	13159.6	0.00	98.07
89.0-90.0	4.3	0.5	13160.1	0.00	98.07
90.0-91.0	4.3	0.5	13160.6	0.00	98.07
91.0-92.0	4.4	0.5	13161.0	0.00	98.08
92.0-93.0	4.7	0.5	13161.6	0.00	98.08
93.0-94.0	5.0	0.5	13162.1	0.00	98.09
94.0-95.0	5.4	0.6	13162.7	0.00	98.09
95.0-96.0	6.0	0.7	13163.3	0.00	98.10
96.0-97.0	6.4	0.7	13164.0	0.01	98.10
97.0-98.0	6.9	0.8	13164.8	0.01	98.11
98.0-99.0	7.5	0.8	13165.6	0.01	98.11
99.0-100.0	8.1	0.9	13166.5	0.01	98.12
100.0-101.0	8.8	0.9	13167.4	0.01	98.13
101.0-102.0	9.3	1.0	13168.4	0.01	98.13
102.0-103.0	10.0	1.1	13169.5	0.01	98.14
103.0-104.0	10.7	1.1	13170.6	0.01	98.15
104.0-105.0	11.4	1.2	13171.9	0.01	98.16
105.0-106.0	12.3	1.3	13173.2	0.01	98.17
106.0-107.0	13.3	1.4	13174.6	0.01	98.18
107.0-108.0	14.2	1.5	13176.0	0.01	98.19

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Zonal Lumen (Continue 3)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
108.0-109.0	15.1	1.6	13177.6	0.01	98.20
109.0-110.0	16.2	1.7	13179.3	0.01	98.21
110.0-111.0	17.4	1.8	13181.1	0.01	98.23
111.0-112.0	18.6	1.9	13183.0	0.01	98.24
112.0-113.0	19.8	2.0	13185.0	0.01	98.26
113.0-114.0	21.1	2.1	13187.1	0.02	98.27
114.0-115.0	22.5	2.3	13189.3	0.02	98.29
115.0-116.0	23.9	2.4	13191.7	0.02	98.31
116.0-117.0	25.3	2.5	13194.2	0.02	98.33
117.0-118.0	26.8	2.6	13196.8	0.02	98.35
118.0-119.0	28.3	2.7	13199.5	0.02	98.37
119.0-120.0	29.9	2.9	13202.4	0.02	98.39
120.0-121.0	31.5	3.0	13205.4	0.02	98.41
121.0-122.0	33.1	3.1	13208.5	0.02	98.43
122.0-123.0	34.8	3.2	13211.7	0.02	98.46
123.0-124.0	36.7	3.4	13215.0	0.02	98.48
124.0-125.0	38.5	3.5	13218.5	0.03	98.51
125.0-126.0	40.3	3.6	13222.1	0.03	98.53
126.0-127.0	42.2	3.7	13225.8	0.03	98.56
127.0-128.0	44.1	3.8	13229.7	0.03	98.59
128.0-129.0	46.0	3.9	13233.6	0.03	98.62
129.0-130.0	48.0	4.1	13237.7	0.03	98.65
130.0-131.0	49.8	4.2	13241.8	0.03	98.68
131.0-132.0	51.7	4.2	13246.1	0.03	98.71
132.0-133.0	53.7	4.3	13250.4	0.03	98.74
133.0-134.0	55.8	4.4	13254.9	0.03	98.78
134.0-135.0	57.7	4.5	13259.4	0.03	98.81
135.0-136.0	59.6	4.6	13263.9	0.03	98.85
136.0-137.0	61.5	4.6	13268.6	0.03	98.88
137.0-138.0	63.5	4.7	13273.3	0.04	98.92
138.0-139.0	65.4	4.8	13278.0	0.04	98.95
139.0-140.0	67.4	4.8	13282.8	0.04	98.99
140.0-141.0	69.2	4.8	13287.7	0.04	99.02
141.0-142.0	70.9	4.8	13292.5	0.04	99.06
142.0-143.0	72.5	4.8	13297.4	0.04	99.09
143.0-144.0	74.1	4.8	13302.2	0.04	99.13

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

Inspector:

Zonal Lumen (Continue 4)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
144.0-145.0	75.8	4.8	13307.0	0.04	99.17
145.0-146.0	77.7	4.8	13311.8	0.04	99.20
146.0-147.0	79.6	4.8	13316.7	0.04	99.24
147.0-148.0	81.5	4.8	13321.5	0.04	99.27
148.0-149.0	83.3	4.8	13326.2	0.04	99.31
149.0-150.0	85.2	4.7	13331.0	0.04	99.34
150.0-151.0	87.1	4.7	13335.7	0.04	99.38
151.0-152.0	89.1	4.7	13340.3	0.03	99.41
152.0-153.0	91.0	4.6	13344.9	0.03	99.45
153.0-154.0	92.9	4.5	13349.5	0.03	99.48
154.0-155.0	94.8	4.5	13354.0	0.03	99.52
155.0-156.0	96.5	4.4	13358.4	0.03	99.55
156.0-157.0	98.4	4.3	13362.7	0.03	99.58
157.0-158.0	100.3	4.2	13366.9	0.03	99.61
158.0-159.0	102.1	4.1	13371.0	0.03	99.64
159.0-160.0	103.8	4.0	13375.0	0.03	99.67
160.0-161.0	105.5	3.9	13378.8	0.03	99.70
161.0-162.0	107.6	3.7	13382.6	0.03	99.73
162.0-163.0	109.5	3.6	13386.2	0.03	99.76
163.0-164.0	111.1	3.5	13389.6	0.03	99.78
164.0-165.0	112.9	3.3	13392.9	0.02	99.81
165.0-166.0	114.8	3.2	13396.1	0.02	99.83
166.0-167.0	116.5	3.0	13399.1	0.02	99.85
167.0-168.0	118.1	2.8	13401.9	0.02	99.87
168.0-169.0	119.5	2.6	13404.5	0.02	99.89
169.0-170.0	121.0	2.4	13406.9	0.02	99.91
170.0-171.0	122.4	2.2	13409.1	0.02	99.93
171.0-172.0	123.6	2.0	13411.1	0.01	99.94
172.0-173.0	124.8	1.8	13412.9	0.01	99.96
173.0-174.0	125.8	1.6	13414.5	0.01	99.97
174.0-175.0	126.8	1.3	13415.8	0.01	99.98
175.0-176.0	127.7	1.1	13416.9	0.01	99.99
176.0-177.0	128.4	0.9	13417.8	0.01	99.99
177.0-178.0	128.9	0.6	13418.4	0.00	100.00
178.0-179.0	129.3	0.4	13418.8	0.00	100.00
179.0-180.0	129.6	0.1	13418.9	0.00	100.00

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 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	11218.6	11218.6	11218.6	11218.6	11218.6	11218.6	11218.6	11218.6	11218.6	11218.6
G1.0	11050.2	11242.4	11373.7	11268.1	11191.6	11161.7	11134.4	11136.1	11025.5	11099.8
G2.0	11148.5	11072.1	11087.0	11113.2	11116.4	11101.2	11088.5	11122.1	11053.8	11169.4
G3.0	11380.8	11084.6	11062.2	11285.9	11148.8	11165.0	11310.9	11395.7	11284.0	11305.7
G4.0	11331.0	11438.9	11280.7	11318.9	11198.5	11310.3	11423.5	11394.9	11202.8	11202.1
G5.0	11183.3	11278.0	11267.2	11242.3	11328.5	11296.3	11238.2	11323.9	11266.9	11301.3
G6.0	11453.2	11178.8	11251.1	11287.0	11235.4	11227.2	11455.7	11444.0	11287.6	11338.9
G7.0	11200.9	11386.0	11264.0	11229.2	11262.4	11233.1	11204.6	11237.4	11149.8	11180.9
G8.0	11211.1	11116.8	11194.3	11149.4	11150.9	11147.8	11214.0	11326.9	11226.9	11259.4
G9.0	11315.1	11171.2	11174.5	11173.1	11089.4	11064.2	11217.3	11189.0	11046.0	11179.3
G10.0	11040.8	11124.7	11088.9	11053.6	11091.0	11097.9	11007.5	11137.7	11158.9	11146.6
G11.0	11160.5	10998.0	11071.7	11055.2	10943.9	10996.1	11169.2	11209.2	11117.9	11206.0
G12.0	11002.1	11089.6	10994.3	11022.7	10974.9	10974.6	10897.5	10956.9	10915.5	11007.5
G13.0	10861.0	10820.6	10953.9	10865.9	10817.6	10846.5	10855.6	10989.9	10928.4	10887.9
G14.0	10854.7	10783.0	10801.7	10796.2	10650.7	10646.0	10734.9	10737.6	10494.8	10510.6
G15.0	10369.9	10582.3	10568.2	10515.7	10495.3	10417.3	10304.4	10365.4	10116.9	10127.3
G16.0	10022.9	10101.2	10194.3	10201.1	10136.7	10050.8	10009.6	10107.7	9864.1	9850.5
G17.0	9787.8	9769.4	9843.0	9974.6	9866.0	9778.2	9796.6	9898.1	9655.2	9619.5
G18.0	9612.6	9539.2	9599.1	9761.7	9657.9	9549.8	9598.1	9710.8	9468.6	9400.8
G19.0	9420.6	9336.7	9380.9	9582.4	9438.3	9331.8	9400.4	9520.0	9261.2	9165.3
G20.0	9218.7	9144.6	9169.3	9415.8	9232.1	9125.1	9180.9	9317.7	9041.9	8952.3
G21.0	8995.5	8919.4	8936.0	9212.7	9018.1	8916.5	8958.8	9101.1	8814.8	8723.7
G22.0	8783.2	8691.5	8728.9	8999.0	8805.5	8704.2	8736.2	8881.3	8576.6	8521.1
G23.0	8551.2	8453.6	8514.9	8791.1	8599.5	8479.6	8509.2	8659.3	8323.8	8321.8
G24.0	8327.5	8200.1	8316.3	8585.1	8386.1	8237.5	8268.1	8429.1	8072.3	8119.3
G25.0	8089.0	7943.7	8083.5	8356.3	8168.1	7958.4	8002.0	8159.3	7790.2	7868.9
G26.0	7826.6	7669.5	7814.0	8086.1	7904.3	7660.0	7719.2	7860.7	7506.3	7570.9
G27.0	7538.2	7372.0	7505.5	7767.6	7587.4	7346.1	7414.8	7526.7	7208.4	7219.3
G28.0	7235.9	7046.1	7154.4	7402.4	7220.4	6990.6	7078.1	7164.0	6882.7	6819.7
G29.0	6876.7	6701.0	6756.2	6962.8	6824.3	6611.3	6703.6	6778.9	6534.1	6429.1
G30.0	6516.0	6361.6	6358.4	6528.7	6416.7	6224.7	6324.6	6397.6	6155.7	6048.4
G31.0	6136.8	5962.6	5948.4	6100.7	6006.4	5855.0	5936.4	6006.6	5763.8	5674.1
G32.0	5770.3	5595.0	5583.0	5707.1	5638.0	5512.1	5564.1	5633.9	5397.4	5340.2
G33.0	5409.9	5244.2	5242.7	5360.3	5268.4	5175.1	5216.2	5270.9	5060.3	5024.1
G34.0	5092.2	4942.0	4943.7	5033.8	4950.1	4876.2	4900.2	4959.7	4775.0	4760.4
G35.0	4774.8	4663.6	4657.3	4738.1	4653.7	4598.5	4611.8	4640.7	4504.9	4497.0
G36.0	4484.4	4414.3	4401.0	4462.4	4389.2	4357.5	4365.5	4365.5	4258.6	4247.6

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

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	4212.9	4162.6	4150.3	4204.2	4139.7	4112.4	4119.3	4110.0	4014.6	4008.5
G38.0	3977.5	3934.5	3927.1	3969.7	3906.4	3875.4	3887.8	3874.9	3780.8	3768.6
G39.0	3742.9	3699.8	3689.9	3738.5	3657.9	3635.8	3655.8	3649.4	3549.3	3542.5
G40.0	3536.3	3477.4	3462.7	3512.3	3436.2	3407.9	3436.9	3440.1	3350.2	3333.7
G41.0	3319.1	3268.3	3242.9	3300.4	3207.5	3186.7	3227.6	3227.8	3139.2	3130.4
G42.0	3107.6	3051.7	3037.3	3099.5	3011.2	2971.5	3012.2	3013.4	2935.5	2910.4
G43.0	2896.3	2848.4	2809.3	2902.3	2811.7	2780.3	2800.6	2810.2	2728.4	2705.8
G44.0	2684.6	2636.7	2603.8	2704.0	2610.5	2579.0	2589.4	2595.5	2525.5	2516.1
G45.0	2482.9	2435.5	2407.8	2493.7	2413.1	2384.1	2402.7	2396.9	2339.6	2336.1
G46.0	2285.7	2240.6	2221.0	2289.6	2238.5	2188.7	2220.6	2211.5	2160.0	2171.0
G47.0	2106.1	2066.1	2047.7	2106.8	2044.6	2013.6	2039.8	2036.1	1975.5	1997.3
G48.0	1928.0	1904.2	1887.3	1920.7	1875.8	1871.8	1870.3	1866.0	1814.4	1836.4
G49.0	1767.4	1755.0	1739.7	1750.9	1720.7	1734.2	1720.3	1712.8	1660.7	1678.6
G50.0	1600.5	1607.2	1588.8	1599.5	1578.1	1589.2	1560.7	1565.3	1501.1	1534.2
G51.0	1455.4	1452.6	1438.5	1458.4	1432.0	1444.7	1406.7	1427.4	1350.6	1399.2
G52.0	1312.9	1320.2	1306.7	1317.9	1287.3	1300.7	1265.9	1283.7	1194.6	1236.2
G53.0	1176.7	1198.3	1175.9	1174.7	1160.8	1164.0	1133.6	1132.6	1027.2	1041.3
G54.0	1015.5	1055.4	1042.7	1042.2	1029.8	1018.2	963.8	956.4	820.9	826.0
G55.0	845.8	895.1	894.0	884.9	891.7	852.5	776.1	751.1	581.9	564.3
G56.0	640.3	706.9	724.1	712.7	714.4	656.0	564.9	524.5	319.5	279.2
G57.0	411.1	498.9	543.4	520.8	490.0	426.0	338.5	279.5	136.8	120.6
G58.0	200.6	270.0	327.3	331.6	282.2	221.2	153.7	124.7	69.8	64.9
G59.0	98.9	130.0	164.6	167.1	134.0	110.7	86.1	72.6	47.2	44.5
G60.0	64.9	76.7	85.3	86.5	76.8	64.6	54.7	48.9	34.8	32.7
G61.0	48.3	53.9	57.9	59.3	53.5	48.0	41.9	38.2	25.2	24.3
G62.0	37.1	41.1	44.9	44.7	41.7	37.3	32.7	29.8	18.4	17.5
G63.0	27.0	31.1	34.6	34.9	32.9	29.2	24.9	23.1	14.5	13.9
G64.0	20.8	23.3	26.2	26.1	24.9	23.1	20.1	18.0	12.2	11.8
G65.0	16.9	19.1	20.6	20.8	19.8	18.8	16.9	15.6	11.2	11.0
G66.0	14.3	15.4	16.9	17.0	16.8	16.1	14.8	14.0	10.6	10.7
G67.0	13.2	13.6	14.5	14.4	14.4	14.5	14.0	13.2	10.4	10.2
G68.0	12.7	13.3	13.5	14.1	13.6	13.7	13.4	12.9	10.4	9.9
G69.0	13.0	13.1	12.7	13.6	13.1	12.9	12.9	13.2	10.4	9.9
G70.0	12.5	12.8	12.7	12.2	12.8	12.9	12.6	12.6	10.1	10.2
G71.0	12.2	12.3	12.1	13.0	12.3	12.3	12.3	11.6	9.6	9.4
G72.0	11.4	11.3	11.9	11.4	12.3	12.1	11.5	12.1	9.9	9.2
G73.0	11.4	11.8	11.4	11.2	12.0	11.5	11.5	11.0	9.6	9.7

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

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	10.9	11.3	11.1	11.7	11.5	11.3	10.7	11.3	9.3	9.4
G75.0	10.6	11.0	10.6	10.4	10.7	10.7	10.2	10.2	8.6	8.4
G76.0	10.1	9.7	10.3	11.2	11.0	10.5	9.9	9.7	9.1	8.9
G77.0	9.6	10.2	9.8	10.6	10.4	9.6	9.4	9.1	7.8	7.8
G78.0	9.3	8.9	9.5	10.4	9.1	9.4	9.7	9.7	7.5	7.6
G79.0	9.1	8.6	9.0	8.8	9.6	8.8	8.6	9.1	8.3	8.1
G80.0	8.6	8.9	9.0	8.3	8.3	8.3	8.9	8.1	8.0	7.8
G81.0	8.0	8.6	8.2	8.0	9.1	8.0	7.8	7.5	7.5	6.5
G82.0	7.5	8.1	7.7	7.4	8.6	8.3	7.2	8.1	6.2	6.0
G83.0	7.5	7.8	7.9	8.3	7.2	7.8	6.7	7.5	6.0	5.8
G84.0	6.5	6.5	7.4	7.7	6.7	6.4	6.2	5.9	6.5	6.5
G85.0	6.5	6.8	6.1	6.1	7.2	5.9	5.6	5.4	6.2	6.0
G86.0	6.0	6.3	6.3	6.7	5.3	5.4	5.1	5.9	4.7	5.5
G87.0	4.7	5.8	5.3	6.1	4.8	4.8	4.6	4.3	5.2	5.0
G88.0	4.4	4.5	4.8	5.6	5.6	5.4	4.3	4.8	3.6	3.4
G89.0	3.9	4.2	4.2	4.3	5.3	5.1	4.6	4.6	4.7	3.4
G90.0	4.7	4.2	4.0	5.1	5.1	4.6	4.3	4.3	4.7	3.4
G91.0	4.9	4.7	4.8	3.7	4.8	4.8	3.8	3.8	3.6	3.7
G92.0	5.2	4.2	4.2	4.3	5.3	4.0	4.0	5.1	4.7	4.7
G93.0	5.7	5.5	4.8	5.9	4.6	4.6	5.6	4.6	4.9	5.0
G94.0	5.2	6.0	6.3	5.3	5.1	6.2	5.9	5.9	4.2	4.2
G95.0	6.7	6.0	6.9	6.9	5.9	6.7	5.6	6.7	4.4	4.5
G96.0	7.5	6.5	7.4	6.7	7.5	7.5	6.2	5.9	5.7	5.8
G97.0	8.0	7.8	7.1	7.2	7.2	7.0	7.8	6.7	6.2	6.0
G98.0	8.6	8.4	7.7	8.0	8.8	7.5	7.5	8.3	6.7	6.5
G99.0	8.3	8.4	9.5	9.6	9.6	9.4	9.1	8.9	6.2	6.3
G100.0	9.9	9.2	10.0	10.1	10.2	9.9	9.7	9.7	7.5	6.8
G101.0	10.4	10.2	9.8	10.9	10.7	9.4	10.2	9.1	8.3	7.6
G102.0	10.1	10.5	10.3	10.6	11.5	10.2	9.9	10.7	8.0	8.6
G103.0	11.7	11.3	12.1	11.2	12.0	11.8	10.7	11.6	9.6	9.4
G104.0	12.2	11.8	11.6	12.0	12.0	12.6	11.5	12.4	10.4	9.9
G105.0	12.5	12.8	13.5	13.6	12.8	13.4	12.9	12.9	11.2	10.7
G106.0	13.8	13.6	14.3	14.1	13.6	14.2	13.7	14.0	11.9	11.8
G107.0	14.3	14.4	15.3	15.2	14.4	15.0	14.8	13.7	13.0	12.6
G108.0	15.3	15.4	16.1	16.0	15.5	15.0	15.6	14.5	13.2	13.6
G109.0	16.3	16.5	16.1	16.5	16.6	16.1	16.6	15.6	14.3	14.7
G110.0	17.4	17.5	18.2	18.1	17.7	18.0	17.2	17.7	15.3	15.7

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

Inspector:

Candlepower Table (Continue 3)

Unit: cd

G\C	C0.0	C22.5	C45.0	C67.5	C90.0	C112.5	C135.0	C157.5	C180.0	C202.5
G111.0	18.4	18.6	19.3	18.9	19.3	18.5	18.2	19.1	16.6	17.0
G112.0	20.0	19.9	20.6	20.5	20.3	19.8	19.6	19.1	18.4	18.0
G113.0	20.8	21.2	21.9	21.6	21.9	21.7	20.9	21.5	19.2	19.4
G114.0	22.8	22.5	22.5	22.9	23.0	22.5	22.8	21.8	21.0	20.7
G115.0	23.6	23.8	24.6	24.2	24.6	24.4	23.6	24.2	21.8	22.0
G116.0	24.9	25.6	25.9	25.5	25.7	25.5	24.9	25.5	23.6	23.0
G117.0	27.3	26.7	26.9	27.7	27.3	27.1	26.8	25.8	24.4	24.3
G118.0	27.8	28.5	28.3	28.7	28.9	28.4	28.2	28.5	26.5	25.9
G119.0	29.3	29.6	30.4	30.3	30.5	30.0	29.5	30.1	27.5	27.7
G120.0	30.9	31.1	31.7	32.2	32.1	31.6	31.4	31.4	29.6	29.3
G121.0	33.5	32.7	33.3	33.5	33.7	33.5	33.0	33.1	30.6	30.3
G122.0	34.0	34.3	35.1	35.1	35.3	35.1	34.6	33.6	32.4	32.7
G123.0	35.8	36.1	37.0	37.3	37.2	37.0	36.2	35.5	34.8	34.3
G124.0	38.7	37.9	38.8	38.6	39.1	38.3	38.1	37.1	36.1	36.1
G125.0	40.5	40.3	40.2	40.7	40.7	40.2	40.0	38.7	38.4	38.2
G126.0	41.0	41.3	42.3	42.1	42.5	42.6	41.6	41.6	39.7	40.0
G127.0	43.9	44.0	43.6	43.9	44.4	43.7	43.5	42.5	41.8	41.3
G128.0	45.7	45.8	45.2	45.8	46.0	45.6	45.1	44.1	44.4	43.4
G129.0	46.5	47.6	47.0	47.4	47.9	48.0	46.9	46.8	46.2	46.0
G130.0	48.3	49.5	48.6	49.2	49.8	49.9	48.8	48.6	48.3	48.1
G131.0	50.1	50.2	50.5	51.1	51.6	50.7	50.7	50.2	50.3	49.5
G132.0	51.9	52.1	52.3	52.7	53.5	52.5	52.3	52.1	51.9	51.5
G133.0	54.2	54.7	54.2	54.6	55.4	54.4	53.4	53.2	54.0	54.4
G134.0	55.3	56.5	56.8	56.4	57.2	57.1	55.3	55.1	56.3	55.7
G135.0	57.4	57.3	58.6	58.3	58.8	57.9	57.9	56.7	57.9	58.6
G136.0	58.9	59.1	60.5	60.1	60.7	60.9	58.7	59.1	60.2	59.6
G137.0	60.7	61.8	61.3	62.0	62.6	61.4	60.6	60.7	61.8	62.0
G138.0	62.3	63.6	63.1	63.9	64.2	64.3	62.2	62.1	64.4	63.8
G139.0	64.1	64.4	65.0	66.0	66.1	65.1	65.2	63.7	65.7	65.9
G140.0	65.9	67.0	66.6	67.3	67.9	68.1	67.1	65.6	67.7	68.6
G141.0	67.5	68.6	69.5	69.2	69.5	69.7	68.7	67.4	69.6	69.6
G142.0	69.3	69.3	71.3	71.1	71.1	70.2	69.2	69.1	71.6	71.2
G143.0	70.8	70.9	71.9	72.7	72.8	71.8	70.8	70.7	73.5	73.0
G144.0	71.9	72.5	73.7	74.0	74.6	74.5	72.7	72.0	74.5	74.6
G145.0	73.5	75.1	75.3	76.1	76.2	76.4	74.3	73.6	76.0	77.2
G146.0	76.0	76.9	78.2	77.7	78.1	78.3	77.3	75.5	78.4	78.0
G147.0	78.1	78.0	80.1	80.1	80.2	80.2	79.1	77.4	80.2	80.6

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

Inspector:

Candlepower Table (Continue 4)

Unit: cd

G\C	C0.0	C22.5	C45.0	C67.5	C90.0	C112.5	C135.0	C157.5	C180.0	C202.5
G148.0	79.9	79.8	82.2	82.2	82.1	82.0	80.2	79.3	81.2	81.6
G149.0	81.8	81.6	84.0	83.6	84.0	83.9	82.9	81.2	83.6	83.5
G150.0	82.5	84.5	85.1	85.7	85.9	86.1	84.8	83.0	85.6	86.1
G151.0	85.6	85.6	88.0	87.8	88.0	87.9	86.6	84.9	86.4	87.1
G152.0	87.5	87.4	89.0	90.5	89.9	88.7	88.5	87.1	88.5	90.0
G153.0	88.0	90.0	91.7	92.3	91.7	90.6	90.4	88.9	91.1	91.8
G154.0	90.1	91.8	93.3	94.2	93.9	93.6	92.0	91.1	93.2	93.1
G155.0	91.6	92.6	94.3	95.5	95.5	95.2	93.9	92.4	95.0	96.0
G156.0	93.4	95.2	96.2	97.4	97.4	96.2	95.8	94.6	96.8	97.9
G157.0	95.2	96.3	98.0	99.8	99.2	98.9	97.4	96.2	98.9	99.7
G158.0	97.3	98.1	100.4	100.9	101.1	100.5	99.8	98.6	100.4	101.5
G159.0	99.1	99.9	102.0	102.7	102.7	101.6	101.7	100.8	102.3	103.3
G160.0	102.3	101.8	103.8	105.4	104.6	103.5	103.0	102.4	103.0	104.4
G161.0	103.0	103.9	105.4	107.3	106.5	105.4	104.6	104.3	104.8	106.0
G162.0	105.1	105.4	107.3	109.4	108.3	108.0	107.3	107.2	108.0	108.6
G163.0	106.9	107.5	109.1	110.2	110.2	109.9	109.4	109.4	109.8	109.6
G164.0	108.7	109.4	111.0	113.1	111.8	111.0	110.3	111.0	110.3	112.0
G165.0	110.6	111.2	112.5	115.0	113.9	113.1	113.2	113.7	112.1	112.8
G166.0	113.2	113.0	114.4	115.5	115.8	114.7	115.1	115.6	115.0	115.1
G167.0	114.2	114.6	116.0	118.2	117.4	116.6	115.6	117.4	116.8	115.9
G168.0	116.3	116.4	117.8	118.7	118.8	119.0	117.2	118.2	118.3	118.0
G169.0	117.8	117.7	118.9	121.1	120.4	120.1	118.8	119.6	119.9	118.8
G170.0	119.1	119.6	121.0	122.4	122.0	122.2	121.8	122.0	120.4	120.6
G171.0	120.7	120.6	121.8	123.8	123.3	123.9	122.1	122.3	122.5	121.7
G172.0	122.0	122.4	123.9	123.8	124.6	124.9	124.5	124.4	122.8	122.4
G173.0	123.3	123.0	124.2	125.9	126.5	126.3	125.5	124.4	124.1	123.8
G174.0	124.3	124.8	125.0	126.7	127.1	126.8	126.6	125.2	125.6	124.5
G175.0	125.4	124.8	125.8	127.5	128.1	128.4	127.7	127.4	126.4	125.6
G176.0	126.1	125.6	127.6	127.0	130.0	128.4	128.5	128.2	127.2	126.6
G177.0	126.9	127.2	127.1	128.8	130.0	129.2	129.3	127.6	127.7	127.2
G178.0	127.4	127.7	127.3	129.3	130.5	130.6	129.8	128.2	128.2	127.7
G179.0	128.2	126.9	128.9	128.5	132.4	130.0	129.3	128.7	128.7	128.2
G180.0	127.2	127.9	128.4	129.3	132.7	131.4	129.6	129.8	128.2	127.7

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

Inspector:

Candlepower Table (Continue 5)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G0.0	11218.6	11218.6	11218.6	11218.6	11218.6	11218.6	11218.6			
G1.0	11245.0	11299.2	11237.6	11184.3	11173.0	11287.1	11050.2			
G2.0	11332.7	11357.0	11330.1	11330.6	11258.3	11288.2	11148.5			
G3.0	11408.3	11644.1	11623.8	11497.9	11494.9	11581.1	11380.8			
G4.0	11286.2	11432.3	11540.9	11447.3	11346.8	11417.2	11331.0			
G5.0	11552.3	11606.4	11590.1	11589.9	11488.5	11439.2	11183.3			
G6.0	11305.0	11527.6	11638.0	11495.8	11481.5	11624.1	11453.2			
G7.0	11376.3	11468.8	11505.8	11504.4	11432.7	11323.9	11200.9			
G8.0	11368.1	11543.5	11597.1	11537.9	11479.9	11537.6	11211.1			
G9.0	11184.5	11368.2	11450.5	11418.0	11375.8	11319.9	11315.1			
G10.0	11371.0	11491.1	11472.2	11533.3	11452.8	11321.8	11040.8			
G11.0	11094.2	11339.7	11449.4	11384.8	11295.8	11400.0	11160.5			
G12.0	11088.3	11240.9	11292.1	11342.2	11249.7	11087.5	11002.1			
G13.0	10930.9	11088.7	11147.2	11177.6	11124.7	11183.9	10861.0			
G14.0	10510.8	10683.6	10746.0	10714.6	10715.9	10804.0	10854.7			
G15.0	10234.8	10361.3	10395.8	10351.1	10370.6	10376.2	10369.9			
G16.0	9996.7	10126.1	10151.9	10095.6	10104.3	10134.9	10022.9			
G17.0	9785.7	9933.9	9931.5	9877.4	9874.9	9920.4	9787.8			
G18.0	9564.8	9752.7	9727.7	9656.7	9659.5	9747.9	9612.6			
G19.0	9332.6	9559.7	9510.0	9416.5	9444.9	9571.4	9420.6			
G20.0	9105.6	9375.3	9300.0	9194.3	9238.9	9379.8	9218.7			
G21.0	8879.0	9185.5	9087.4	8969.3	9028.6	9189.5	8995.5			
G22.0	8663.1	9005.9	8883.0	8758.1	8832.2	8994.4	8783.2			
G23.0	8434.4	8809.5	8673.6	8535.0	8634.8	8777.9	8551.2			
G24.0	8221.4	8601.1	8469.2	8303.2	8421.8	8544.6	8327.5			
G25.0	7981.3	8353.1	8240.5	8045.8	8155.7	8279.4	8089.0			
G26.0	7729.0	8062.7	7973.9	7768.6	7847.7	7992.7	7826.6			
G27.0	7410.1	7712.7	7650.5	7470.5	7512.7	7677.2	7538.2			
G28.0	7025.5	7303.1	7275.8	7145.3	7167.4	7352.6	7235.9			
G29.0	6616.0	6866.7	6866.5	6775.3	6809.6	6976.7	6876.7			
G30.0	6218.6	6431.5	6461.1	6394.7	6434.6	6590.2	6516.0			
G31.0	5836.9	6019.0	6024.8	5993.6	6063.8	6180.5	6136.8			
G32.0	5485.3	5658.7	5667.2	5634.6	5694.5	5788.1	5770.3			
G33.0	5176.2	5326.5	5314.7	5279.9	5335.8	5402.8	5409.9			
G34.0	4889.3	5014.3	5020.5	4964.4	5023.6	5082.5	5092.2			
G35.0	4617.1	4723.2	4731.6	4683.5	4731.2	4775.9	4774.8			
G36.0	4364.3	4458.6	4454.5	4421.5	4464.8	4493.2	4484.4			

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

Inspector:

Candlepower Table (Continue 6)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G37.0	4129.5	4215.1	4210.5	4183.5	4201.4	4239.8	4212.9			
G38.0	3906.8	3985.7	3992.3	3948.6	3970.7	3984.5	3977.5			
G39.0	3680.3	3757.6	3763.6	3724.5	3740.5	3749.9	3742.9			
G40.0	3477.2	3552.7	3559.3	3509.0	3519.2	3514.8	3536.3			
G41.0	3264.3	3352.6	3340.7	3280.3	3298.7	3296.6	3319.1			
G42.0	3056.6	3152.2	3130.0	3074.7	3086.0	3083.0	3107.6			
G43.0	2844.5	2951.0	2943.8	2871.2	2870.8	2869.9	2896.3			
G44.0	2653.7	2757.2	2751.5	2672.5	2647.7	2659.2	2684.6			
G45.0	2457.7	2578.1	2563.7	2463.7	2442.4	2444.5	2482.9			
G46.0	2295.5	2401.1	2382.1	2279.5	2271.6	2251.8	2285.7			
G47.0	2129.6	2230.3	2217.1	2102.9	2098.3	2066.4	2106.1			
G48.0	1972.4	2064.7	2047.8	1944.4	1941.1	1895.5	1928.0			
G49.0	1805.7	1905.6	1880.3	1793.0	1769.9	1729.7	1767.4			
G50.0	1648.5	1750.4	1696.0	1634.5	1595.0	1570.9	1600.5			
G51.0	1499.8	1594.4	1548.7	1475.5	1444.5	1420.7	1455.4			
G52.0	1324.9	1401.2	1389.2	1304.2	1288.1	1262.7	1312.9			
G53.0	1130.2	1166.5	1171.5	1121.1	1120.2	1100.9	1176.7			
G54.0	892.7	891.0	907.5	886.3	884.2	895.1	1015.5			
G55.0	585.2	588.4	623.2	623.0	642.5	673.1	845.8			
G56.0	283.5	290.1	289.1	309.4	389.8	419.5	640.3			
G57.0	115.4	113.4	115.8	132.2	159.1	205.6	411.1			
G58.0	62.1	64.7	65.0	69.4	79.9	90.3	200.6			
G59.0	43.6	43.9	45.5	48.5	52.8	58.6	98.9			
G60.0	32.5	32.2	33.7	36.5	39.7	41.9	64.9			
G61.0	23.0	23.1	24.9	25.7	29.0	32.8	48.3			
G62.0	17.2	16.8	17.7	18.5	21.2	22.6	37.1			
G63.0	13.5	13.3	14.4	14.5	16.4	16.7	27.0			
G64.0	11.9	11.7	11.8	12.1	12.9	13.2	20.8			
G65.0	10.6	11.2	11.0	10.7	11.3	11.3	16.9			
G66.0	10.8	10.6	11.2	11.5	11.3	10.5	14.3			
G67.0	10.6	10.4	11.2	10.2	11.3	10.2	13.2			
G68.0	10.0	10.4	11.0	11.3	11.0	11.3	12.7			
G69.0	9.8	10.4	11.0	9.9	11.0	9.9	13.0			
G70.0	10.3	10.1	9.9	9.6	9.7	11.0	12.5			
G71.0	10.0	9.8	10.7	10.7	9.7	10.7	12.2			
G72.0	9.2	9.6	9.4	9.4	9.4	9.4	11.4			
G73.0	9.0	9.3	9.1	9.1	9.1	10.2	11.4			

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

Inspector:

Candlepower Table (Continue 7)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G74.0	8.7	9.0	9.9	8.8	8.9	8.9	10.9			
G75.0	9.0	8.8	8.6	9.6	9.7	9.9	10.6			
G76.0	8.2	8.3	9.4	8.3	8.3	9.4	10.1			
G77.0	7.9	8.0	9.1	8.0	8.0	8.1	9.6			
G78.0	8.2	7.7	7.8	8.8	7.8	7.8	9.3			
G79.0	7.9	8.0	7.5	8.6	7.5	7.5	9.1			
G80.0	7.1	7.2	8.0	7.2	8.3	8.3	8.6			
G81.0	6.6	6.7	6.7	7.8	8.0	7.0	8.0			
G82.0	6.3	6.4	6.4	7.5	7.5	7.8	7.5			
G83.0	6.6	5.9	7.0	6.2	7.0	6.2	7.5			
G84.0	6.1	5.3	5.6	5.6	5.9	7.0	6.5			
G85.0	5.0	5.9	5.3	5.1	5.4	6.4	6.5			
G86.0	4.5	5.3	4.8	5.6	5.1	4.8	6.0			
G87.0	4.8	3.7	4.3	5.1	5.1	4.6	4.7			
G88.0	3.4	4.5	4.3	4.6	4.6	5.1	4.4			
G89.0	3.4	3.5	4.3	4.3	4.3	4.6	3.9			
G90.0	4.5	4.5	4.0	4.3	4.3	3.5	4.7			
G91.0	4.5	4.8	4.3	3.8	4.3	3.5	4.9			
G92.0	4.8	5.1	4.3	4.6	4.3	3.8	5.2			
G93.0	4.0	4.0	4.6	4.8	4.3	5.1	5.7			
G94.0	5.3	4.3	5.1	5.1	4.8	4.0	5.2			
G95.0	5.6	4.5	5.3	4.8	5.1	5.6	6.7			
G96.0	6.1	6.1	5.3	5.4	5.4	4.6	7.5			
G97.0	5.3	6.4	6.2	5.6	5.9	6.2	8.0			
G98.0	5.8	5.9	5.9	6.2	6.2	6.7	8.6			
G99.0	6.1	6.1	6.4	7.0	6.4	7.3	8.3			
G100.0	7.9	6.9	7.0	7.2	7.5	6.7	9.9			
G101.0	8.5	8.5	7.5	8.0	8.0	7.3	10.4			
G102.0	9.2	8.3	9.1	8.6	8.3	9.1	10.1			
G103.0	8.7	9.8	8.8	9.4	9.4	8.6	11.7			
G104.0	9.5	9.6	9.6	10.2	10.2	10.5	12.2			
G105.0	10.3	10.6	10.4	10.7	10.5	10.2	12.5			
G106.0	11.1	11.4	11.5	12.1	11.5	12.4	13.8			
G107.0	13.2	12.5	12.3	12.6	13.1	13.4	14.3			
G108.0	14.3	14.4	14.4	13.4	13.4	13.2	15.3			
G109.0	15.3	14.6	15.5	15.3	14.5	14.5	16.3			
G110.0	16.4	16.5	15.8	16.4	15.6	15.6	17.4			

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector:

Candlepower Table (Continue 8)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G111.0	17.7	17.3	17.9	17.7	16.9	18.0	18.4			
G112.0	17.7	18.4	18.2	19.0	18.8	18.0	20.0			
G113.0	19.0	20.0	20.3	19.3	19.3	19.6	20.8			
G114.0	20.3	21.0	21.7	20.6	20.7	21.8	22.8			
G115.0	21.7	22.4	23.0	23.1	22.8	23.4	23.6			
G116.0	24.0	23.7	23.5	23.3	23.3	23.6	24.9			
G117.0	24.3	25.3	25.7	25.7	25.8	26.1	27.3			
G118.0	25.9	26.6	27.0	27.3	27.4	27.7	27.8			
G119.0	28.3	27.9	28.1	27.6	28.7	29.0	29.3			
G120.0	29.9	29.8	29.7	29.2	30.6	30.6	30.9			
G121.0	30.6	31.7	31.8	32.2	32.2	31.4	33.5			
G122.0	32.2	33.5	33.7	33.8	33.0	33.3	34.0			
G123.0	35.1	35.4	35.3	34.6	34.9	36.0	35.8			
G124.0	35.9	37.3	37.2	36.5	37.5	37.9	38.7			
G125.0	38.8	38.6	39.1	38.6	38.6	39.0	40.5			
G126.0	40.7	41.0	41.2	40.5	40.8	41.1	41.0			
G127.0	42.5	42.6	43.1	43.7	42.7	43.8	43.9			
G128.0	43.6	44.4	45.5	45.6	45.3	45.1	45.7			
G129.0	45.7	46.3	47.6	46.9	46.9	47.8	46.5			
G130.0	47.8	48.4	49.8	49.1	48.8	50.0	48.3			
G131.0	50.7	50.6	51.4	51.2	51.2	51.3	50.1			
G132.0	52.6	52.4	54.0	54.2	53.4	53.5	51.9			
G133.0	54.2	55.6	56.2	55.8	55.5	56.2	54.2			
G134.0	56.3	57.8	58.3	58.4	57.7	58.3	55.3			
G135.0	58.4	59.9	60.7	60.3	59.8	60.2	57.4			
G136.0	60.5	60.9	62.0	62.5	62.5	62.3	58.9			
G137.0	63.1	63.1	65.0	64.9	64.4	64.5	60.7			
G138.0	65.3	66.0	66.1	67.0	66.5	66.4	62.3			
G139.0	67.4	68.1	69.0	69.2	68.7	68.3	64.1			
G140.0	69.2	70.0	70.1	71.3	70.8	70.4	65.9			
G141.0	71.1	71.9	71.9	73.2	72.7	72.0	67.5			
G142.0	72.6	72.4	74.9	75.1	74.6	73.9	69.3			
G143.0	74.5	74.2	75.4	76.7	76.2	75.8	70.8			
G144.0	76.1	76.9	77.3	78.6	78.1	77.4	71.9			
G145.0	77.9	77.7	78.9	80.2	79.9	78.7	73.5			
G146.0	79.5	79.3	80.8	82.0	81.5	80.6	76.0			
G147.0	81.4	81.4	82.7	84.4	83.4	82.8	78.1			

C Plane (°):0.0-360.0: 22.5

Test Lab: Lisun

Test Type: TYPE C

Temperature: 25 °C

Operator: Ben

Gamma Plane (°):0.0-180.0:1.0

Test Device: LSG-1900B Goniophotometer

Distance: 2 m

Humidity: 65 %

Inspector:

Candlepower Table (Continue 9)

Unit: cd

G\C	C225.0	C247.5	C270.0	C292.5	C315.0	C337.5	C360.0			
G148.0	83.0	84.4	84.3	85.8	85.3	84.6	79.9			
G149.0	84.8	85.2	86.1	88.2	86.6	86.5	81.8			
G150.0	86.9	88.1	89.3	89.5	88.5	87.9	82.5			
G151.0	88.2	90.0	91.2	91.4	90.1	89.8	85.6			
G152.0	90.1	92.1	93.1	94.1	92.8	91.6	87.5			
G153.0	91.9	93.9	95.2	96.2	93.9	93.5	88.0			
G154.0	93.8	95.8	96.0	98.1	96.0	96.5	90.1			
G155.0	96.4	97.7	99.0	100.0	97.9	97.5	91.6			
G156.0	98.3	98.7	99.8	101.1	100.6	99.4	93.4			
G157.0	100.1	100.6	103.0	102.9	101.4	102.4	95.2			
G158.0	100.9	103.3	103.5	105.6	104.4	102.9	97.3			
G159.0	102.8	104.3	105.4	107.5	106.0	105.9	99.1			
G160.0	104.4	105.9	108.3	108.3	106.8	106.7	102.3			
G161.0	105.9	107.8	108.9	111.0	108.4	109.6	103.0			
G162.0	108.8	110.2	112.1	111.8	111.3	110.2	105.1			
G163.0	110.7	111.2	112.6	114.5	111.9	111.8	106.9			
G164.0	112.5	113.4	114.5	115.0	113.5	114.5	108.7			
G165.0	112.8	115.2	117.4	116.4	115.1	115.0	110.6			
G166.0	115.7	116.8	119.3	119.0	117.8	116.6	113.2			
G167.0	117.3	118.2	119.8	120.4	119.4	119.0	114.2			
G168.0	117.8	119.8	122.5	122.0	121.0	119.6	116.3			
G169.0	119.1	120.8	122.8	123.3	122.3	120.9	117.8			
G170.0	120.7	122.2	125.4	124.4	122.6	123.1	119.1			
G171.0	121.8	123.5	127.1	124.4	125.0	123.6	120.7			
G172.0	123.1	124.3	128.1	125.5	126.1	125.5	122.0			
G173.0	125.2	125.3	128.4	126.5	126.9	125.8	123.3			
G174.0	125.0	126.2	130.5	127.6	127.7	127.1	124.3			
G175.0	126.8	127.5	131.3	128.4	127.7	127.6	125.4			
G176.0	126.8	128.3	131.1	130.3	129.0	128.4	126.1			
G177.0	127.6	129.1	132.7	130.8	129.3	129.0	126.9			
G178.0	128.1	128.5	133.2	130.0	129.8	129.3	127.4			
G179.0	128.7	129.9	133.2	131.6	130.1	129.5	128.2			
G180.0	128.9	128.8	132.9	131.4	130.4	129.8	127.2			

C Plane (°):0.0-360.0: 22.5
 Test Lab: Lisun
 Test Type: TYPE C
 Temperature: 25 °C
 Operator: Ben

Gamma Plane (°):0.0-180.0:1.0
 Test Device: LSG-1900B Goniophotometer
 Distance: 2 m
 Humidity: 65 %
 Inspector: