



廣益全球驗證有限公司

Great One Global Certification Co Ltd

台北縣新店市中正路四維巷8弄3號4F

4F., No.3, Aly.8, Siwei Ln., Zhongzheng Rd., Xindian City,

TEL: +886 2 2218-1106

Taipei County 231, Taiwan(R.O.C)

FAX: +886 2 2218-1107

E-mail: sales@go-safety.com.tw

Goniophotometer Measurement Report For Luminaires

Applicant : KWO GER METAL TECHNOLOGY INC.

Applicant Add : 3-5, Wulin St, Shulin City, Taipei county, Taiwan, (R.O.C.)

Report No : GO1011110601

Product Name : LED Module

Model No : KG70A

Sample No : 10111106-1

Test Specification: CIE Pub. No. 70 The Measurement of Absolute
Luminous Intensity Distribution 1987

Test Date: 2010-11-24

Issue Date: 2010-11-24

- Note: 1. The test results of this report relate only to the tested sample identified in this report.
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Tested By:

Reviewed By:

Roy Kao

Sean Kao

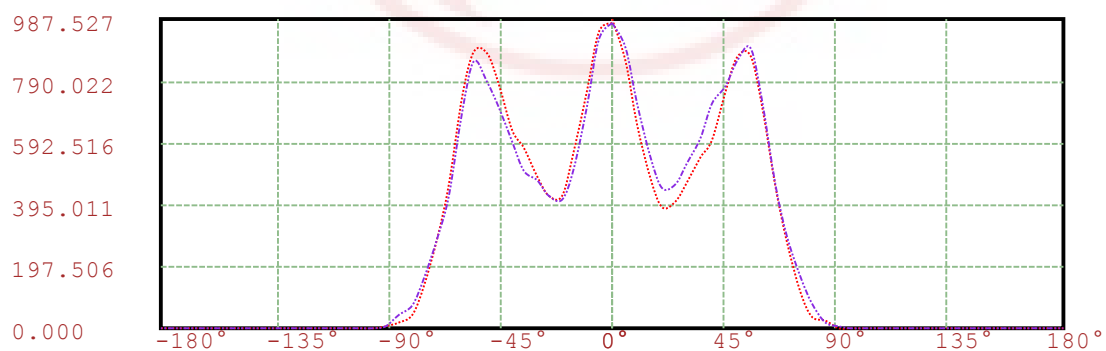
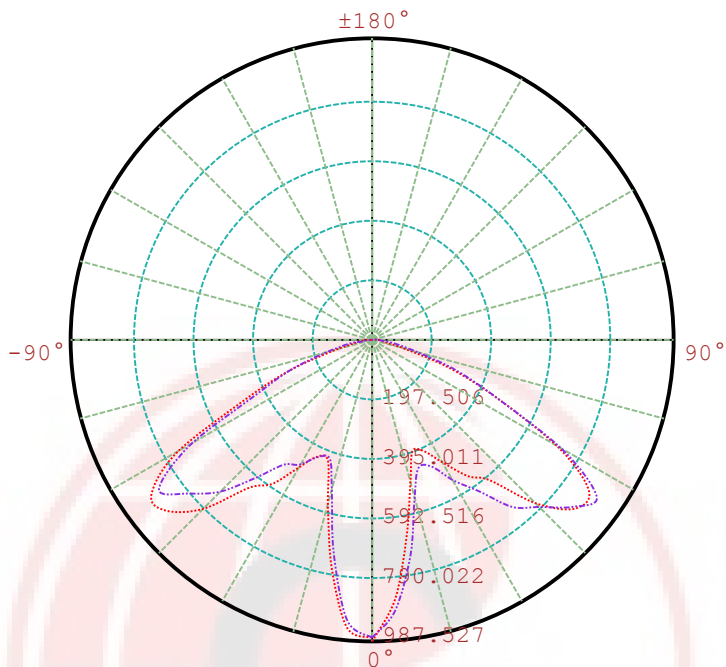
Roy Kao

Sean Kao

Project Engineer

Project Engineer

Light Distribution Curve [Unit: cd]



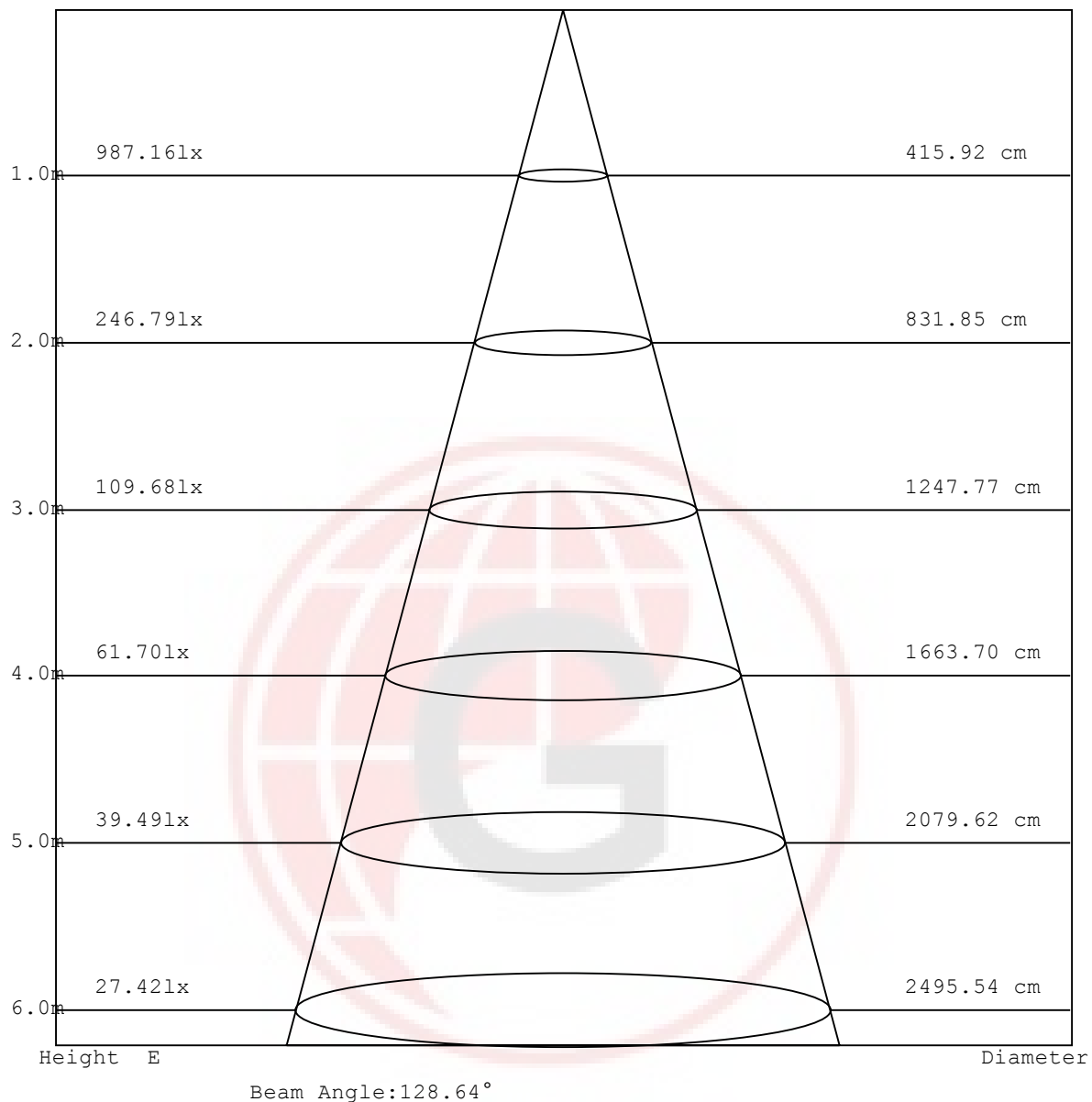
C0/C180:
 C90/C270: - - - - -

Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

Lux distance Curve

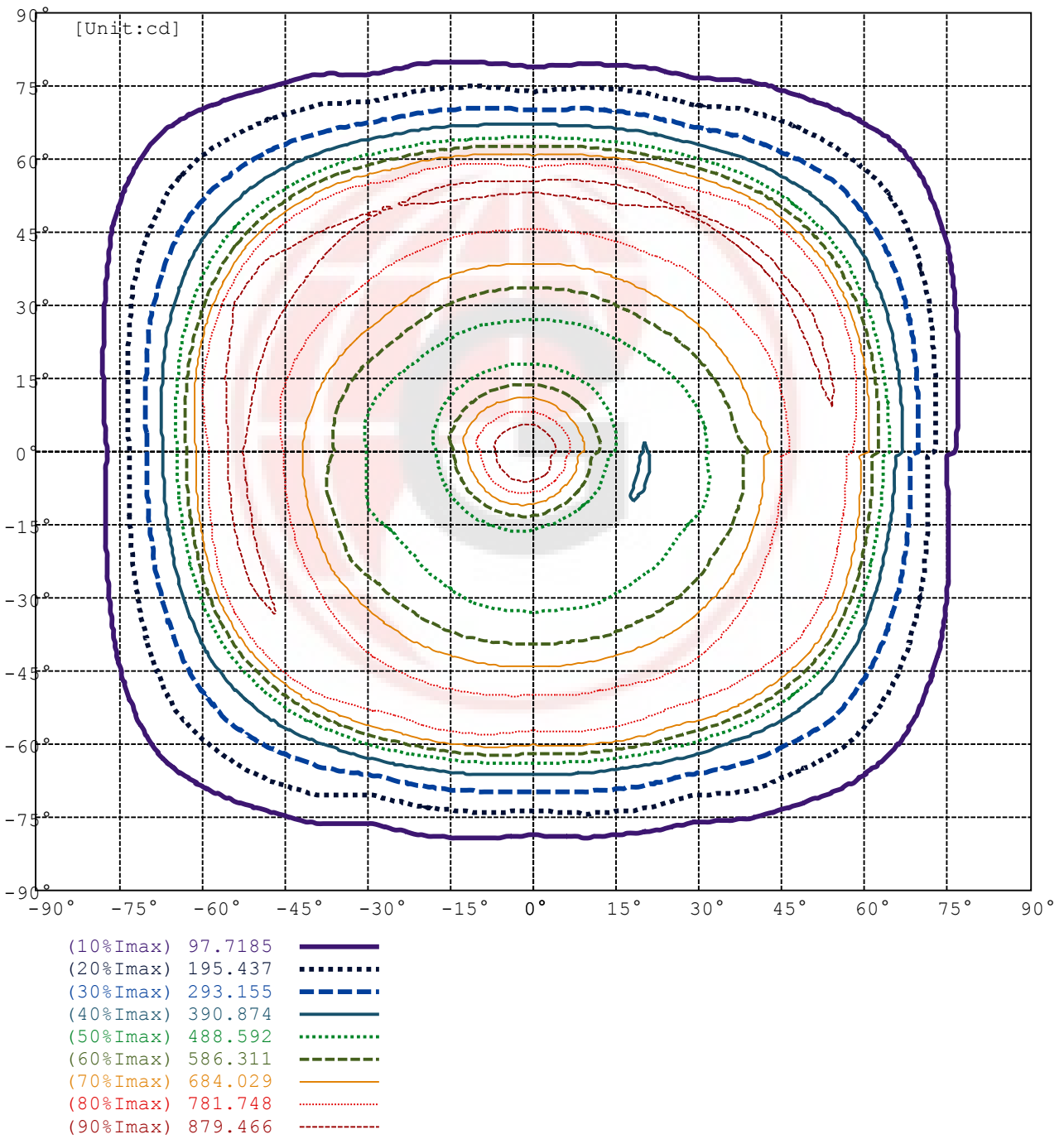


Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

ISO-Intensity (V-H)

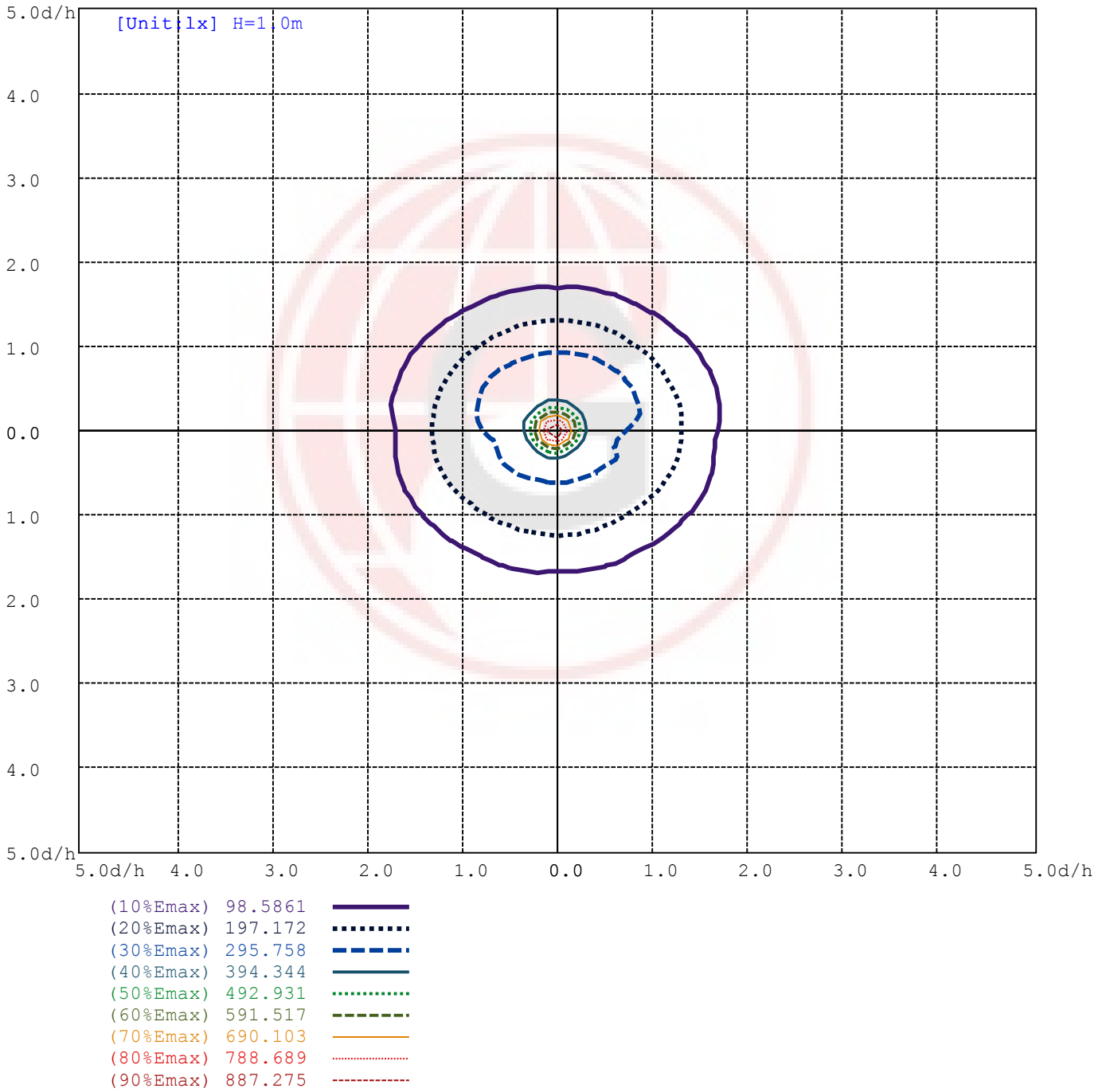


Equipment: GMS1800
Temperature (°C): 25.0

Date:
Humidity (%): 50.0%

Operator: Roy Kao
Distance (m): 13.6

ISO illuminance diagram



Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

Intensity data (cd)

Page: 6 Total:9

c/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0
360.0	976.3	826.5	605.6	439.7	385.1	415.7	479.3	519.3	639.2	784.7
350.0	976.1	831.8	603.7	441.6	382.1	413.1	472.6	505.7	618.9	774.6
340.0	975.2	837.2	612.6	440.1	383.4	411.5	470.0	507.3	618.3	755.4
330.0	975.2	851.2	627.4	456.2	389.5	412.2	470.6	551.8	606.9	738.8
320.0	975.7	858.4	634.0	452.9	394.7	415.5	475.9	512.3	611.5	724.0
310.0	974.2	869.1	641.4	456.7	399.1	416.8	475.9	512.1	603.6	712.3
300.0	975.5	882.8	662.1	468.4	401.0	416.7	472.6	507.7	602.3	710.3
290.0	974.8	896.8	674.1	482.4	403.9	417.9	469.5	499.8	592.3	708.1
280.0	975.2	907.4	699.4	491.3	407.6	419.6	470.0	504.0	596.2	702.2
270.0	977.2	919.2	711.2	509.9	412.8	422.0	471.9	501.6	594.5	705.5
260.0	979.0	929.4	733.0	519.3	411.7	419.2	470.2	502.5	594.1	700.9
250.0	981.8	937.5	740.2	533.7	412.4	421.1	471.3	502.2	592.7	705.1
240.0	984.2	943.4	755.2	535.8	413.9	423.3	478.3	512.7	603.0	710.5
230.0	985.3	948.9	754.6	546.1	413.0	424.4	483.7	519.7	611.5	722.5
220.0	986.4	950.0	763.1	545.2	414.3	423.1	490.3	528.0	618.5	734.1
210.0	987.5	951.7	757.6	554.2	413.7	424.2	488.1	527.7	598.8	754.3
200.0	987.2	949.5	761.1	552.8	413.7	422.6	468.7	526.7	625.0	761.7
190.0	986.6	947.6	761.8	559.2	413.1	424.0	484.3	521.4	630.7	775.7
180.0	976.3	944.5	761.7	564.6	420.4	424.4	487.0	574.2	630.5	778.5
170.0	976.1	946.5	804.3	602.5	441.4	415.5	470.6	550.6	671.7	740.2
160.0	975.2	941.7	793.4	594.0	449.5	423.7	485.4	567.7	683.2	757.4
150.0	975.2	934.7	786.4	589.9	451.0	435.7	504.8	597.1	708.1	774.4
140.0	975.7	928.6	772.7	586.6	456.0	447.9	521.9	618.2	731.0	786.8
130.0	974.2	920.1	766.8	575.3	454.3	450.1	526.5	622.2	726.9	782.2
120.0	975.5	914.9	750.4	568.7	455.3	452.9	526.5	609.8	718.1	778.5
110.0	974.8	905.3	741.5	556.1	452.7	454.3	526.0	608.2	707.4	769.0
100.0	975.2	899.1	723.2	551.7	452.7	461.0	529.3	606.7	711.0	772.0
90.0	977.2	893.2	716.6	545.0	448.4	461.4	528.4	609.8	717.0	772.7
80.0	979.0	887.6	701.4	541.7	443.6	459.5	528.4	607.4	712.3	774.2
70.0	981.8	879.7	694.4	533.9	435.3	455.3	527.7	610.8	718.3	777.5
60.0	984.2	874.5	679.5	525.6	430.9	455.6	532.5	617.2	722.1	785.3
50.0	985.3	866.7	674.7	522.7	425.9	449.7	528.2	618.9	723.8	778.5
40.0	986.4	862.9	663.2	511.0	417.9	440.9	518.4	602.3	714.0	779.6
30.0	987.5	856.8	662.1	507.0	407.8	428.7	499.0	589.3	707.7	777.2
20.0	987.2	857.0	655.8	496.1	399.5	415.4	483.7	567.4	691.3	759.3
10.0	986.6	853.8	659.0	494.6	391.9	408.3	467.1	550.0	681.5	757.0
0.0	987.0	850.1	649.0	478.5	389.0	403.7	463.6	546.1	600.1	753.9

Equipmente: GMS1800
 Temperature(°C): 25.0

Date:
 Humidity(%): 50.0%

Operator: Roy Kao
 Distance(m): 13.6

Intensity data (cd)

C/γ (°)	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0
360.0	870.8	840.9	646.8	408.2	229.9	85.9	29.9	18.8	1.3	1.3
350.0	869.1	853.3	682.4	399.7	264.5	138.5	51.3	19.8	1.3	1.3
340.0	857.3	858.1	737.8	418.5	282.4	160.5	62.1	22.2	1.5	1.5
330.0	825.9	845.1	749.8	427.7	298.8	172.1	62.4	10.3	1.1	1.3
320.0	800.3	835.7	721.0	419.4	286.5	168.4	59.8	26.2	1.1	1.5
310.0	781.2	824.8	717.3	408.0	286.3	180.4	65.6	24.4	1.5	1.5
300.0	777.2	823.3	680.6	420.4	270.2	145.5	57.8	24.7	1.7	1.5
290.0	782.2	851.6	716.4	416.1	290.0	181.9	70.9	30.7	2.0	1.7
280.0	777.7	859.5	718.4	424.0	292.0	184.1	83.1	38.2	2.0	1.5
270.0	782.3	853.4	690.7	425.2	285.7	161.2	74.2	40.6	3.7	1.8
260.0	775.3	868.2	741.7	437.5	291.4	180.1	89.0	42.8	3.3	1.8
250.0	774.4	863.8	749.6	437.9	294.0	169.7	88.8	37.5	4.8	2.0
240.0	780.3	842.5	734.1	448.6	276.1	143.1	67.8	32.3	4.6	2.0
230.0	788.8	847.3	763.1	439.6	299.4	192.4	85.0	36.9	5.2	2.0
220.0	810.4	862.9	787.9	449.3	309.9	197.4	80.3	40.8	4.8	1.7
210.0	837.4	877.3	801.9	449.0	317.5	193.2	84.4	39.7	5.4	1.3
200.0	855.5	895.6	818.0	453.6	310.6	196.3	93.8	43.8	4.1	1.3
190.0	870.3	892.0	770.0	448.6	301.0	175.1	80.7	44.0	4.4	1.3
180.0	875.1	883.9	740.0	458.4	287.9	136.7	44.5	17.9	4.6	1.1
170.0	867.8	903.3	843.5	509.9	337.4	204.3	104.2	27.1	10.3	1.5
160.0	862.1	907.2	877.1	525.4	343.3	214.1	111.4	24.9	10.2	0.9
150.0	865.4	902.4	873.4	522.3	331.1	210.7	99.5	24.2	8.1	0.9
140.0	856.8	897.0	847.0	497.9	326.9	206.3	91.6	24.4	8.7	0.9
130.0	847.0	885.0	819.3	493.5	316.2	203.7	102.3	22.5	7.6	1.1
120.0	845.1	881.9	763.9	483.1	307.0	174.3	78.9	23.3	7.6	0.9
110.0	845.1	903.9	785.3	477.6	313.2	198.5	102.3	22.7	5.5	0.7
100.0	846.2	904.6	766.8	459.5	312.9	200.2	96.4	20.7	5.5	1.5
90.0	850.9	896.7	727.5	460.6	294.4	163.1	78.1	20.3	4.1	1.1
80.0	850.3	909.6	765.2	449.3	306.8	194.8	89.9	17.7	3.9	1.3
70.0	852.3	910.1	767.9	457.7	302.5	189.1	89.6	17.2	2.4	1.1
60.0	848.1	884.7	746.1	450.6	280.7	158.3	66.7	15.0	2.8	1.3
50.0	848.3	885.9	767.7	451.2	293.8	185.1	81.4	15.0	2.2	1.3
40.0	852.0	891.7	797.5	450.8	299.2	183.4	66.3	13.5	1.7	1.3
30.0	856.6	888.3	797.7	461.7	310.3	180.8	71.1	13.7	1.5	1.1
20.0	859.9	892.8	814.3	463.0	309.5	191.2	82.0	13.3	1.5	1.3
10.0	861.8	887.1	779.8	454.5	307.3	174.9	74.6	14.4	2.2	1.3
0.0	861.9	870.3	712.9	455.4	276.5	119.5	37.7	24.6	1.3	0.9

Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

Intensity data (cd)

C/γ (°)	100.0	105.0	110.0	115.0	120.0	125.0	130.0	135.0	140.0	145.0
360.0	1.3	1.5	1.7	1.7	1.7	1.8	1.5	1.5	1.3	1.3
350.0	1.3	1.5	1.5	1.5	1.3	1.1	1.3	1.3	1.3	1.1
340.0	1.3	1.3	1.5	1.3	1.3	1.3	1.3	1.3	1.1	1.1
330.0	1.5	1.5	1.5	1.3	1.1	1.1	1.3	1.3	1.5	1.8
320.0	1.3	1.7	1.8	1.7	1.5	1.3	1.3	1.5	1.3	1.1
310.0	1.5	1.5	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.3
300.0	1.7	1.5	1.3	1.5	1.3	1.3	1.1	1.1	1.1	1.1
290.0	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.7
280.0	1.5	1.3	1.3	1.3	1.3	1.3	1.3	1.1	1.1	1.3
270.0	1.5	1.5	1.8	1.7	1.8	1.8	1.8	1.7	1.5	1.5
260.0	1.7	1.7	1.5	1.5	1.3	1.3	1.3	1.1	1.1	1.5
250.0	1.7	1.7	1.5	1.3	1.3	1.5	1.5	1.5	1.5	1.8
240.0	1.8	1.8	1.8	2.0	1.8	1.8	1.7	1.5	1.7	1.1
230.0	1.8	2.0	1.3	1.5	1.1	1.1	1.3	1.1	1.7	1.7
220.0	1.7	1.5	1.5	1.3	1.1	1.3	1.3	1.7	1.8	1.5
210.0	1.5	1.3	1.5	1.5	1.3	1.5	1.3	1.5	1.7	1.8
200.0	1.5	1.5	1.5	1.7	1.7	1.7	1.7	1.7	1.8	1.7
190.0	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.5	1.3
180.0	1.1	1.1	1.3	1.1	1.5	1.3	1.5	1.7	1.5	1.7
170.0	1.3	1.3	1.3	1.1	1.3	1.5	1.7	1.7	1.5	1.5
160.0	1.1	0.9	1.1	1.5	1.5	1.7	1.3	1.7	1.3	1.1
150.0	1.1	1.5	1.5	1.5	1.1	1.3	1.5	1.7	1.5	1.5
140.0	1.1	1.1	1.5	1.5	1.7	1.3	1.1	1.3	1.1	1.3
130.0	1.3	1.3	1.5	1.7	1.5	1.7	1.7	1.5	1.7	1.5
120.0	0.9	1.1	1.1	1.3	1.5	1.7	1.7	1.5	1.5	1.3
110.0	1.1	1.1	1.3	1.5	1.5	1.5	1.1	1.3	1.1	1.5
100.0	1.5	1.1	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.7
90.0	0.9	0.7	1.1	1.3	1.3	1.3	1.7	1.7	1.7	1.3
80.0	1.3	1.3	1.7	1.7	1.5	1.5	1.7	1.5	1.3	1.3
70.0	1.3	1.5	1.5	1.5	1.3	1.3	1.1	1.1	1.1	1.5
60.0	1.1	0.9	1.1	1.5	1.5	1.1	1.1	1.3	1.7	1.5
50.0	1.1	1.1	1.1	1.1	1.1	1.1	1.5	1.5	1.5	1.3
40.0	1.1	0.9	0.9	1.3	1.5	1.7	1.7	1.3	1.3	1.3
30.0	0.9	1.1	1.3	1.5	1.3	1.7	1.7	1.7	1.7	1.5
20.0	1.7	1.1	1.3	0.9	1.3	1.7	1.7	1.5	1.3	1.3
10.0	0.9	0.9	1.1	1.1	1.3	1.1	1.5	1.7	1.5	1.7
0.0	1.1	0.9	1.3	1.1	1.3	1.5	1.3	1.3	1.3	1.3

Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

Intensity data(cd)

C/γ(°)	150.0	155.0	160.0	165.0	170.0	175.0	180.0
360.0	1.1	1.1	1.5	1.5	1.7	1.7	1.5
350.0	1.3	1.1	1.1	1.1	1.5	1.7	1.7
340.0	1.3	1.3	1.7	1.5	1.5	1.7	1.7
330.0	1.8	1.5	1.3	1.3	1.1	1.5	1.5
320.0	1.1	1.1	1.3	1.3	1.3	1.5	1.3
310.0	1.1	1.5	1.5	1.5	1.5	1.7	1.7
300.0	1.3	1.3	1.3	1.3	1.1	1.1	1.3
290.0	1.3	1.3	1.3	1.3	1.3	1.3	0.9
280.0	1.3	1.3	1.3	1.5	1.5	1.7	1.5
270.0	1.5	1.5	1.5	1.3	1.3	1.3	1.3
260.0	1.3	1.3	1.5	1.7	1.7	1.7	1.7
250.0	1.7	1.7	1.7	1.7	1.7	1.5	1.3
240.0	1.3	1.3	1.3	1.3	1.3	1.5	1.5
230.0	1.7	1.8	1.5	1.1	1.3	1.3	1.3
220.0	1.1	1.3	1.5	1.7	1.3	1.1	1.3
210.0	1.7	1.8	1.5	1.8	1.5	1.3	1.1
200.0	1.7	1.8	1.8	1.7	1.7	1.7	1.5
190.0	1.3	1.5	1.7	1.5	1.5	1.5	1.5
180.0	1.7	1.7	1.7	1.7	1.3	1.5	0.0
170.0	0.9	1.1	1.1	1.3	1.5	1.7	1.7
160.0	1.1	1.1	1.1	1.1	1.5	1.5	1.7
150.0	1.1	1.3	1.1	1.1	1.5	1.5	1.5
140.0	1.5	1.5	1.3	1.7	1.7	1.7	1.3
130.0	1.7	1.5	1.5	1.5	1.5	1.5	1.7
120.0	1.1	1.1	1.1	1.1	1.3	1.1	1.3
110.0	1.7	1.3	1.5	1.1	1.1	1.1	0.9
100.0	1.5	1.7	1.5	1.7	1.7	1.5	1.5
90.0	1.3	1.3	1.3	1.1	1.1	1.1	1.3
80.0	1.3	1.1	1.1	1.1	1.3	1.5	1.7
70.0	1.5	1.5	1.5	1.1	1.1	1.1	1.3
60.0	1.5	0.9	1.1	1.3	1.7	1.5	1.5
50.0	1.1	1.3	1.1	1.5	1.7	1.5	1.3
40.0	1.1	1.3	1.5	1.5	1.7	1.1	1.3
30.0	1.3	1.1	1.1	1.1	1.1	1.1	1.1
20.0	1.3	0.9	1.3	1.5	1.5	1.5	1.5
10.0	1.8	1.5	1.7	1.5	1.7	1.5	1.5
0.0	1.3	1.5	1.1	1.3	1.5	1.5	1.3

Equipmente: GMS1800
Temperature(°C): 25.0

Date:
Humidity(%): 50.0%

Operator: Roy Kao
Distance(m): 13.6



廣益全球驗證有限公司

台北縣新店市中正路四維巷8弄3號4F

TEL: +886 2 2218-1106

FAX: +886 2 2218-1107

Great One Global Certification Co Ltd

4F., No.3, Aly.8, Siwei Ln., Zhongzheng Rd., Xindian City,

Taipei County 231, Taiwan(R.O.C)

E-mail: sales@go-safety.com.tw

1. Luminaire Specification :

- (1) Input Voltage/Frequency : 110 V ac / 60Hz
- (2) Input Watt : 37.5 W
- (3) Input Current : 0.635 A
- (4) Total Luminous Flux Output : 2851.03 lm
- (5) Luminaire Efficacy : 76.03 lm/W
- (6) Central Intensity (cd): 986.973
- (7) Maximum Intensity(cd): 987.527
- (8)PF: 0.986

2. Description of EUT Setup :

- (1) Operating Orientation : The light source is considered as horizontal.
- (2) Light Source : LED
- (3) Stabilization time : 0.5 Hour
- (4) Environment Condition : Temperature: 25 ± 1 °C , Humidity: $55\pm 10\%$



廣益全球驗證有限公司

台北縣新店市中正路四維巷8弄3號4F

TEL: +886 2 2218-1106

FAX: +886 2 2218-1107

Great One Global Certification Co Ltd

4F., No.3, Aly.8, Siwei Ln., Zhongzheng Rd., Xindian City,

Taipei County 231, Taiwan(R.O.C)

E-mail: sales@go-safety.com.tw

4. Photograph of EUT :

