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Optical Report For Luminaires

Applicant : GlacialTech Inc

Applicant Add : 9Fl., No.352, Sec.2, Jung Shan Rd., Jung He City, Taipei,
Taiwan, 235, R.O.C

Report No : GO11122701-2

Product Name : LED Flood Light

Model No : GL-FL120-CW

Sample No : 11122701-2

Test Specification : IESNA LM-79-08, Approved Method: Electrical and
Photometric Measurements of Solid-State Lighting
Products. (Deviation - Type C Goniophotometer of
Rotating Luminaire)

Test Date : 2011-12-30

Issue Date : 2011-12-30

- 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:

Chuck Lee
Project Engineer

David Yuan
Manager

Great One Global Certification Co.

Product: LED Flood Light
Manufacturer: GlacialTech Inc
Sample No.: GL-FL120-CW
Tested By: Nadia Chen

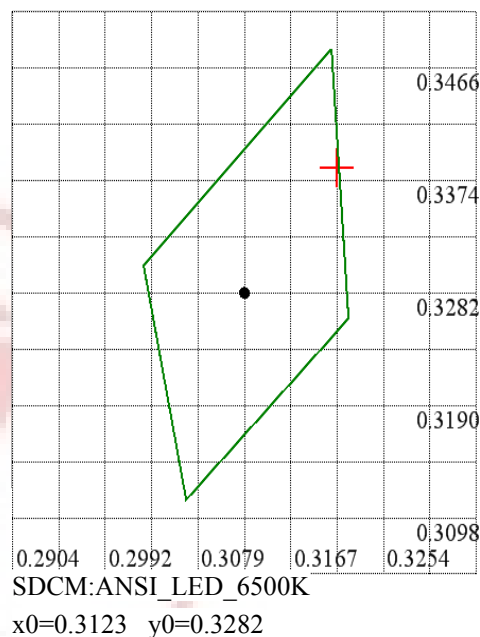
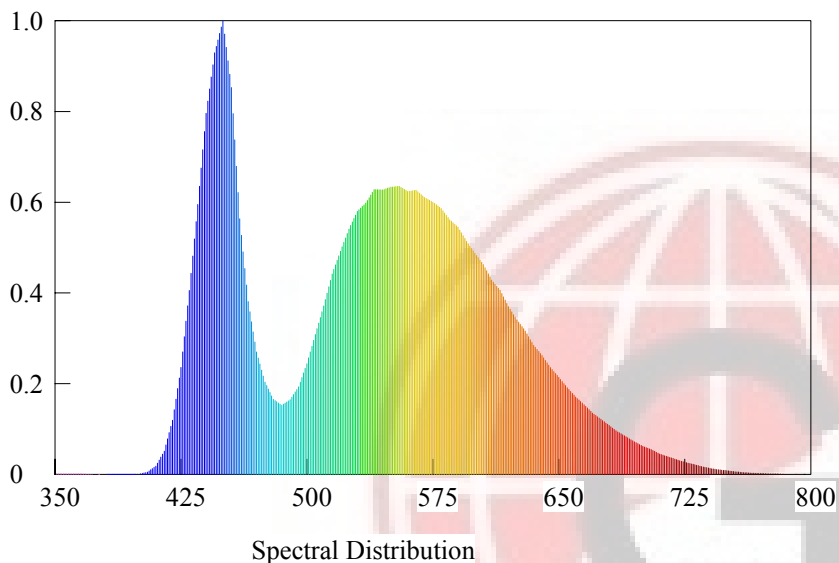
Date: 12-29-2011
Reviewed By: Roy Kao

Test Condition

Temperature: 24.1°C
Spectrum Range: 350-800 nm

RH: 59%
Scan Step: 5 nm

Spectroradiometric Parameters



Chromaticity Coordinates: $x=0.3210$ $y=0.3384$ $u'=0.2$ $v'=0.4745$

Correlated Color Temperature: 6032 K

Dominant Wavelength: 497.0 nm(E)

Luminous Flux: 7819.938 lm

Purity: 0.0389

Chromaticity Difference: +0.00392Duv

Peak Wavelength: 449.1 nm

Color Ratio: $K_r=29.6\%$ $K_g=60.9\%$ $K_b=9.5\%$

Color Tolerance: 0.0 SDCM

Bandwidth: 29.5nm

Radiant Flux: 25.38 W

Rendering Index: $R_a=72.1$

$R_1=70$ $R_2=76$ $R_3=78$ $R_4=73$ $R_5=71$ $R_6=66$ $R_7=81$ $R_8=61$

$R_9=-24$ $R_{10}=41$ $R_{11}=70$ $R_{12}=44$ $R_{13}=71$ $R_{14}=87$ $R_{15}=66$

Electric Parameters

Voltage: 120.03 V

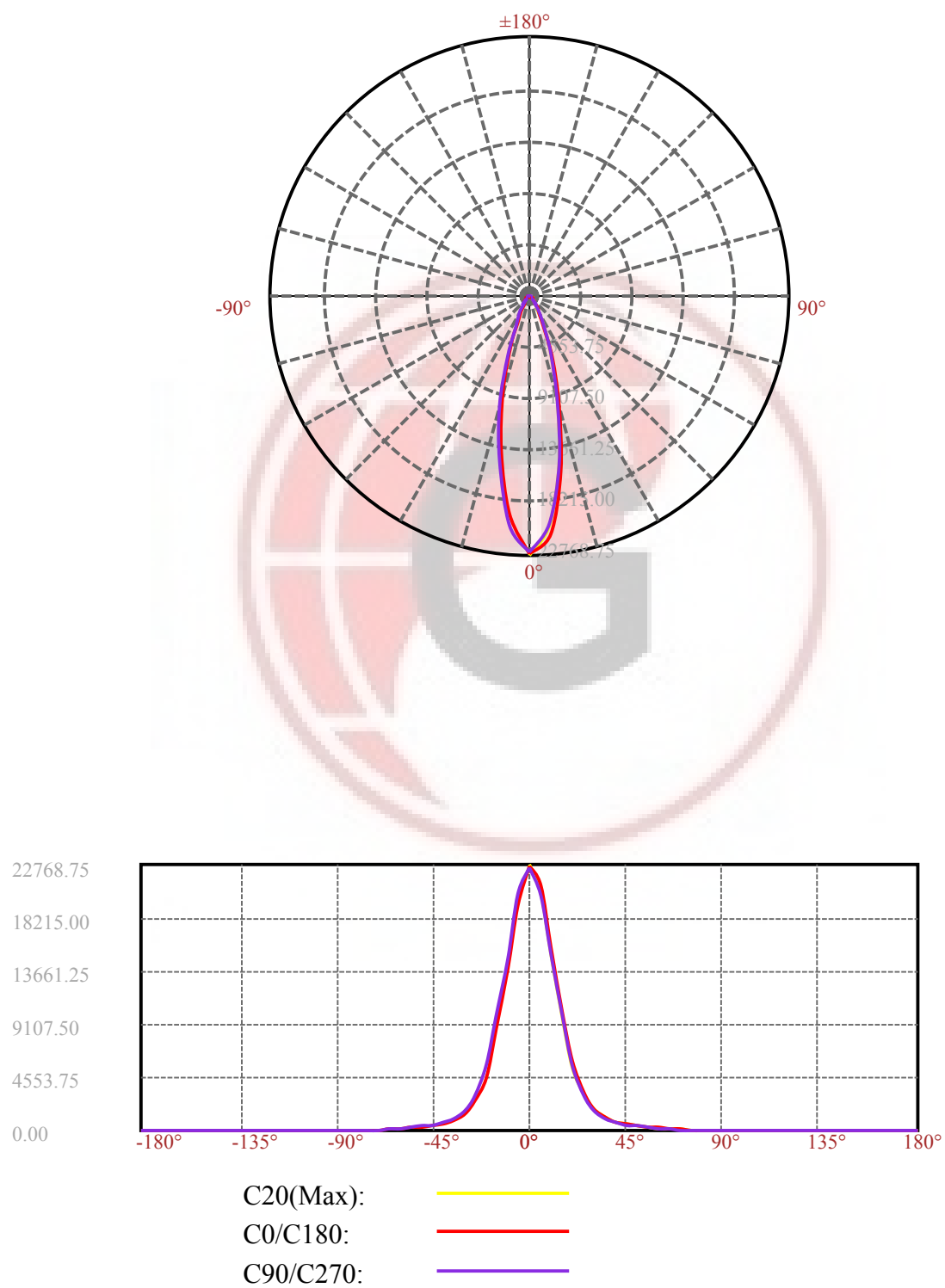
Current: 0.9300 A

Power Factor: 0.9922

Power: 110.72 W

Luminous Efficacy: 70.63 lm/W

Light Distribution Curve [Unit: cd]



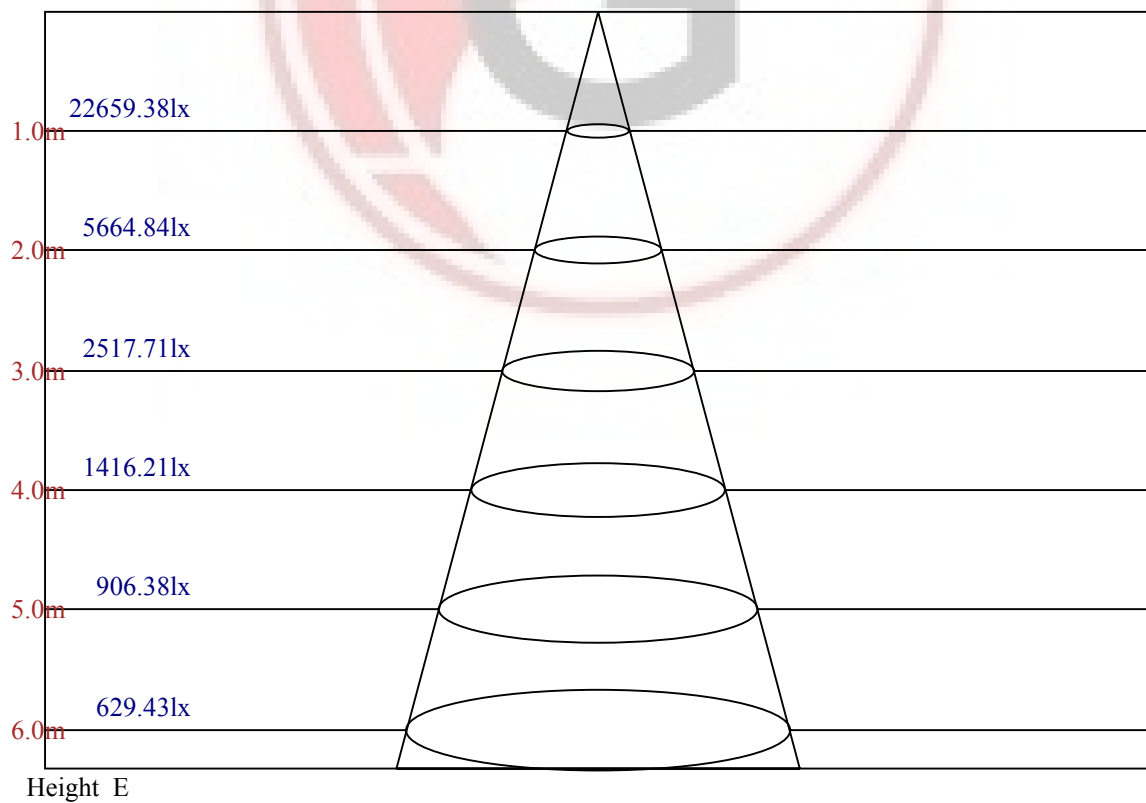
Equipment: GMS1800
Temperature($^\circ\text{C}$): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

Lux distance Curve

Illuminance at a Distance			
	Center Beam LUX	Beam Width	
		V	H
2m	5664.84 LUX	1.0m	0.9m
4m	1416.21 LUX	1.9m	1.9m
6m	629.43 LUX	2.9m	2.8m
8m	354.05 LUX	3.9m	3.8m
10m	226.59 LUX	4.8m	4.7m
12m	157.36 LUX	5.8m	5.6m

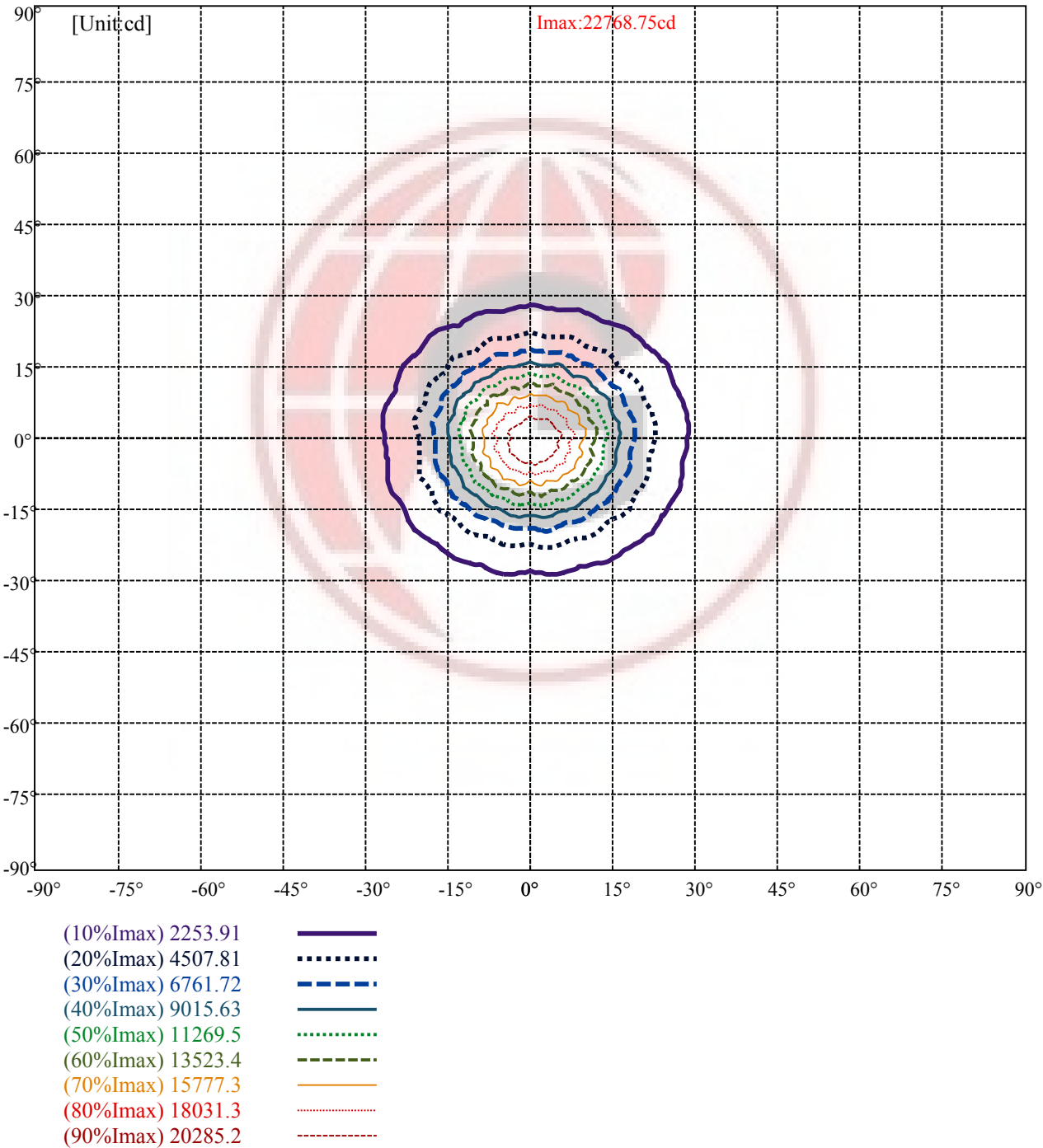


Equipment: GMS1800
Temperature(°C): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

ISO-Intensity(V-H)

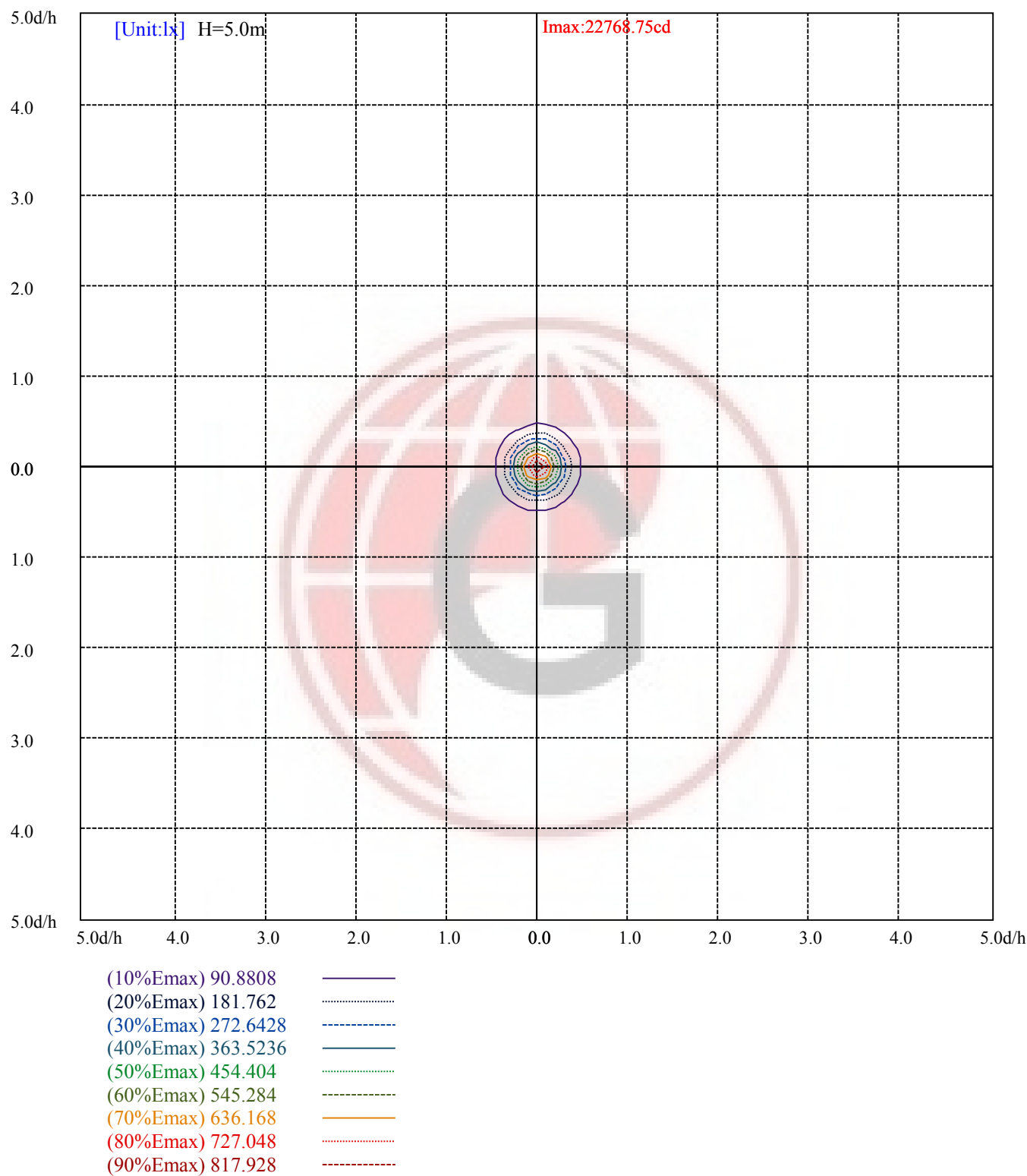


Equipment: GMS1800
Temperature(°C): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

ISO illuminance diagram



Equipment: GMS1800
Temperature(°C): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	22659.38	20892.19	15670.31	10042.19	5907.81	3257.81	1867.19	1162.50	768.75
10.0	22745.31	21051.56	16145.31	10190.63	6015.63	3432.81	1909.38	1189.06	803.13
20.0	22768.75	20221.88	15093.75	9565.63	5428.13	3109.38	1795.31	1114.06	751.56
30.0	22715.63	20776.56	15834.37	10221.88	5850.00	3364.06	1935.94	1162.50	770.31
40.0	22737.50	20165.63	14745.31	9529.69	5092.19	3032.81	1782.81	1039.06	689.06
50.0	22703.13	20668.75	15726.56	9860.94	5807.81	3296.88	1793.75	1101.56	723.44
60.0	22679.69	19789.06	14620.31	8954.69	5179.69	2885.94	1620.31	978.13	660.94
70.0	22628.13	20376.56	15415.63	10193.75	5650.00	3114.06	1670.31	1032.81	681.25
80.0	22540.63	19562.50	14440.63	9128.13	5071.88	2776.56	1548.44	939.06	620.31
90.0	22539.06	20065.63	15081.25	9692.19	5465.63	2981.25	1639.06	985.94	667.19
100.0	22425.00	19360.94	13935.94	8982.81	4984.38	2635.94	1518.75	923.44	618.75
110.0	22495.31	20078.13	14789.06	9415.63	5473.44	2904.69	1606.25	1012.50	648.44
120.0	22464.06	18804.69	13859.38	8809.38	4600.00	2620.31	1503.13	887.50	607.81
130.0	22559.38	20004.69	15265.63	9175.00	5309.38	3073.44	1635.94	965.63	635.94
140.0	22545.31	19131.25	13868.75	8743.75	4685.94	2646.88	1523.44	890.63	601.56
150.0	22640.63	19943.75	14823.44	9556.25	5154.69	2884.38	1567.19	960.94	648.44
160.0	22593.75	19278.13	13984.38	8585.94	4707.81	2531.25	1468.75	910.94	614.06
170.0	22695.31	20225.00	14803.13	9262.50	5134.38	2829.69	1567.19	953.13	665.63
180.0	22659.38	19250.00	13907.81	8771.88	4493.75	2551.56	1462.50	884.38	631.25
190.0	22745.31	19276.56	13921.88	8775.00	4651.56	2567.19	1398.44	895.31	639.06
200.0	22768.75	20182.81	15048.44	9195.31	5248.44	2915.63	1579.69	989.06	684.38
210.0	22715.63	19617.19	13771.88	8904.69	4903.13	2675.00	1557.81	940.63	634.38
220.0	22737.50	20531.25	15232.81	9650.00	5585.94	3054.69	1756.25	1040.63	676.56
230.0	22703.13	19793.75	14618.75	9376.56	5134.38	2895.31	1623.44	975.00	657.81
240.0	22679.69	20682.81	15776.56	9898.44	5842.19	3265.63	1759.38	1071.88	712.50
250.0	22628.13	20078.13	15014.06	9564.06	5423.44	3009.38	1679.69	1017.19	681.25
260.0	22540.63	20779.69	15976.56	10462.50	6037.50	3342.19	1906.25	1096.88	729.69
270.0	22539.06	20250.00	14682.81	9870.31	5609.38	2904.69	1712.50	1031.25	679.69
280.0	22425.00	21187.50	16048.44	10542.19	6500.00	3359.38	1854.69	1107.81	735.94
290.0	22495.31	20378.13	15142.19	9964.06	5700.00	3078.13	1785.94	1025.00	703.13
300.0	22464.06	21050.00	16070.31	10473.44	6259.38	3429.69	1937.50	1193.75	767.19
310.0	22559.38	20276.56	15234.38	9967.19	5565.63	3204.69	1890.63	1112.50	737.50
320.0	22545.31	21037.50	16270.31	10350.00	6143.75	3573.44	2000.00	1231.25	823.44
330.0	22640.63	20331.25	15253.13	9696.88	5529.69	3207.81	1862.50	1137.50	754.69
340.0	22593.75	20896.88	16007.81	10357.81	5946.88	3407.81	1965.63	1198.44	806.25
350.0	22695.31	20245.31	14496.88	9575.00	5423.44	3007.81	1790.63	1100.00	735.94
360.0	22659.38	20892.19	15670.31	10042.19	5907.81	3257.81	1867.19	1162.50	768.75

Equipment: GMS1800
Temperature(°C): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

Intensity data(cd)

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	554.69	407.81	303.13	225.00	150.00	79.69	31.25	4.69	4.69
10.0	567.19	414.06	310.94	228.13	148.44	87.50	32.81	4.69	1.56
20.0	528.13	381.25	287.50	210.94	137.50	76.56	26.56	6.25	3.13
30.0	540.63	387.50	293.75	214.06	145.31	85.94	32.81	4.69	3.13
40.0	489.06	345.31	254.69	189.06	125.00	64.06	20.31	4.69	3.13
50.0	503.13	357.81	273.44	196.88	121.88	64.06	20.31	4.69	3.13
60.0	468.75	343.75	260.94	176.56	104.69	51.56	12.50	4.69	3.13
70.0	482.81	356.25	273.44	178.13	106.25	50.00	10.94	6.25	3.13
80.0	460.94	343.75	243.75	162.50	87.50	35.94	9.38	6.25	1.56
90.0	484.38	354.69	257.81	171.88	95.31	40.63	9.38	6.25	3.13
100.0	453.13	337.50	235.94	157.81	76.56	32.81	9.38	4.69	3.13
110.0	471.88	351.56	265.63	175.00	98.44	45.31	10.94	6.25	3.13
120.0	446.88	331.25	254.69	170.31	95.31	45.31	10.94	4.69	3.13
130.0	464.06	346.88	262.50	193.75	114.06	56.25	15.63	4.69	3.13
140.0	443.75	329.69	248.44	179.69	115.63	53.13	14.06	3.13	1.56
150.0	485.94	354.69	270.31	198.44	132.81	75.00	23.44	4.69	3.13
160.0	462.50	345.31	260.94	195.31	123.44	62.50	18.75	3.13	1.56
170.0	495.31	368.75	282.81	209.38	131.25	70.31	25.00	3.13	1.56
180.0	475.00	353.13	268.75	198.44	120.31	60.94	18.75	3.13	1.56
190.0	471.88	354.69	270.31	195.31	118.75	62.50	15.63	3.13	3.13
200.0	492.19	364.06	279.69	209.38	137.50	75.00	28.13	4.69	1.56
210.0	465.63	350.00	265.63	196.88	128.13	62.50	20.31	4.69	1.56
220.0	490.63	370.31	273.44	206.25	143.75	67.19	20.31	4.69	3.13
230.0	460.94	343.75	264.06	189.06	109.38	54.69	14.06	4.69	3.13
240.0	503.13	373.44	281.25	189.06	110.94	56.25	15.63	6.25	3.13
250.0	482.81	356.25	260.94	167.19	90.63	34.38	10.94	4.69	3.13
260.0	520.31	371.88	259.38	179.69	93.75	40.63	12.50	6.25	3.13
270.0	489.06	357.81	239.06	154.69	87.50	34.38	9.38	7.81	3.13
280.0	525.00	373.44	259.38	173.44	93.75	42.19	14.06	6.25	3.13
290.0	504.69	356.25	262.50	173.44	90.63	40.63	12.50	6.25	3.13
300.0	543.75	395.31	293.75	198.44	121.88	56.25	18.75	6.25	3.13
310.0	523.44	373.44	279.69	207.81	121.88	62.50	14.06	4.69	1.56
320.0	548.44	395.31	296.88	220.31	154.69	78.13	28.13	6.25	3.13
330.0	525.00	379.69	276.56	210.94	145.31	73.44	25.00	3.13	3.13
340.0	568.75	400.00	300.00	229.69	148.44	85.94	35.94	4.69	3.13
350.0	534.38	390.63	287.50	210.94	132.81	71.88	25.00	3.13	1.56
360.0	554.69	407.81	303.13	225.00	150.00	79.69	31.25	4.69	4.69

Equipment: GMS1800
Temperature(°C): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

Intensity data(cd)									
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	3.13	3.13
10.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
20.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
30.0	3.13	3.13	1.56	1.56	1.56	3.13	3.13	1.56	3.13
40.0	3.13	1.56	1.56	0.00	1.56	1.56	3.13	1.56	1.56
50.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
60.0	1.56	1.56	1.56	0.00	1.56	1.56	1.56	1.56	3.13
70.0	3.13	1.56	3.13	1.56	0.00	1.56	1.56	1.56	1.56
80.0	1.56	1.56	1.56	1.56	1.56	3.13	1.56	1.56	1.56
90.0	1.56	1.56	1.56	1.56	3.13	1.56	1.56	1.56	1.56
100.0	1.56	1.56	1.56	1.56	1.56	0.00	1.56	0.00	1.56
110.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	3.13
120.0	1.56	1.56	3.13	1.56	1.56	3.13	3.13	0.00	3.13
130.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
140.0	1.56	1.56	1.56	1.56	3.13	1.56	1.56	1.56	0.00
150.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
160.0	1.56	1.56	1.56	1.56	0.00	0.00	1.56	1.56	1.56
170.0	1.56	1.56	1.56	1.56	1.56	1.56	0.00	1.56	3.13
180.0	1.56	1.56	0.00	1.56	1.56	1.56	0.00	1.56	1.56
190.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	3.13
200.0	3.13	1.56	1.56	3.13	1.56	1.56	1.56	1.56	1.56
210.0	1.56	1.56	1.56	1.56	1.56	0.00	1.56	1.56	1.56
220.0	1.56	1.56	1.56	0.00	1.56	0.00	0.00	1.56	1.56
230.0	0.00	1.56	1.56	1.56	1.56	0.00	1.56	1.56	3.13
240.0	1.56	3.13	1.56	1.56	1.56	0.00	1.56	1.56	1.56
250.0	1.56	1.56	1.56	1.56	1.56	0.00	1.56	1.56	1.56
260.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
270.0	3.13	1.56	1.56	3.13	1.56	1.56	1.56	1.56	1.56
280.0	1.56	1.56	3.13	1.56	1.56	1.56	0.00	1.56	1.56
290.0	3.13	1.56	1.56	1.56	1.56	1.56	0.00	1.56	1.56
300.0	3.13	1.56	3.13	1.56	0.00	1.56	1.56	1.56	1.56
310.0	3.13	1.56	1.56	1.56	1.56	1.56	1.56	3.13	1.56
320.0	3.13	1.56	3.13	1.56	3.13	1.56	1.56	1.56	3.13
330.0	1.56	1.56	1.56	1.56	3.13	1.56	1.56	1.56	3.13
340.0	1.56	1.56	1.56	1.56	1.56	3.13	0.00	1.56	1.56
350.0	1.56	1.56	3.13	3.13	1.56	0.00	1.56	3.13	1.56
360.0	1.56	1.56	1.56	1.56	1.56	1.56	1.56	3.13	3.13

Equipment: GMS1800
Temperature(°C): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

Intensity data(cd)									
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	1.56	1.56	3.13	4.69	4.69	6.25	6.25	6.25	6.25
10.0	1.56	3.13	4.69	3.13	4.69	6.25	7.81	6.25	6.25
20.0	3.13	3.13	3.13	3.13	4.69	6.25	6.25	6.25	6.25
30.0	3.13	1.56	3.13	4.69	6.25	6.25	6.25	6.25	6.25
40.0	1.56	3.13	3.13	3.13	4.69	6.25	6.25	7.81	6.25
50.0	3.13	3.13	3.13	4.69	4.69	6.25	4.69	6.25	4.69
60.0	1.56	3.13	3.13	4.69	4.69	6.25	6.25	6.25	6.25
70.0	1.56	1.56	4.69	4.69	4.69	6.25	6.25	6.25	6.25
80.0	1.56	3.13	3.13	3.13	6.25	6.25	4.69	4.69	6.25
90.0	3.13	3.13	3.13	4.69	6.25	4.69	6.25	6.25	4.69
100.0	1.56	3.13	3.13	4.69	6.25	6.25	4.69	4.69	4.69
110.0	3.13	3.13	3.13	1.56	6.25	4.69	6.25	4.69	4.69
120.0	1.56	3.13	4.69	4.69	4.69	6.25	6.25	6.25	6.25
130.0	1.56	3.13	3.13	4.69	4.69	6.25	4.69	4.69	4.69
140.0	1.56	1.56	1.56	4.69	6.25	6.25	4.69	6.25	6.25
150.0	3.13	3.13	3.13	4.69	6.25	6.25	6.25	6.25	6.25
160.0	3.13	1.56	3.13	3.13	4.69	4.69	6.25	6.25	4.69
170.0	3.13	3.13	3.13	4.69	4.69	6.25	6.25	6.25	4.69
180.0	3.13	3.13	4.69	4.69	6.25	6.25	6.25	6.25	6.25
190.0	3.13	3.13	3.13	4.69	4.69	6.25	6.25	6.25	6.25
200.0	3.13	1.56	3.13	4.69	3.13	4.69	6.25	4.69	6.25
210.0	1.56	1.56	4.69	3.13	4.69	6.25	7.81	6.25	6.25
220.0	1.56	3.13	4.69	3.13	4.69	4.69	6.25	6.25	6.25
230.0	1.56	3.13	1.56	4.69	4.69	4.69	6.25	6.25	6.25
240.0	3.13	3.13	3.13	4.69	4.69	4.69	6.25	4.69	6.25
250.0	1.56	1.56	3.13	3.13	3.13	4.69	6.25	4.69	6.25
260.0	1.56	1.56	3.13	4.69	6.25	4.69	4.69	4.69	6.25
270.0	3.13	3.13	3.13	4.69	4.69	6.25	6.25	6.25	6.25
280.0	3.13	1.56	3.13	4.69	4.69	4.69	4.69	4.69	6.25
290.0	3.13	1.56	3.13	3.13	4.69	4.69	6.25	4.69	6.25
300.0	3.13	1.56	1.56	3.13	4.69	4.69	4.69	6.25	6.25
310.0	1.56	1.56	3.13	4.69	4.69	4.69	6.25	4.69	6.25
320.0	1.56	1.56	3.13	4.69	6.25	6.25	6.25	4.69	4.69
330.0	1.56	1.56	3.13	4.69	4.69	4.69	4.69	6.25	6.25
340.0	1.56	1.56	3.13	4.69	4.69	4.69	6.25	6.25	6.25
350.0	3.13	3.13	3.13	4.69	6.25	6.25	7.81	6.25	4.69
360.0	1.56	1.56	3.13	4.69	4.69	6.25	6.25	6.25	6.25

Equipment: GMS1800
Temperature(°C): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50

Intensity data(cd)

C/ $\gamma(^{\circ})$	180.0
0.0	6.25
10.0	6.25
20.0	6.25
30.0	6.25
40.0	4.69
50.0	6.25
60.0	4.69
70.0	6.25
80.0	6.25
90.0	7.81
100.0	6.25
110.0	4.69
120.0	4.69
130.0	6.25
140.0	4.69
150.0	6.25
160.0	6.25
170.0	4.69
180.0	6.25
190.0	6.25
200.0	6.25
210.0	6.25
220.0	4.69
230.0	6.25
240.0	4.69
250.0	6.25
260.0	6.25
270.0	7.81
280.0	6.25
290.0	4.69
300.0	4.69
310.0	6.25
320.0	4.69
330.0	6.25
340.0	6.25
350.0	4.69
360.0	6.25



Equipment: GMS1800
Temperature($^{\circ}\text{C}$): 23.8

Date: 2011/12/30
Humidity(%): 64.0%

Operator: Nadia Chen
Distance(m): 12.50



廣益全球驗證有限公司
新北市中和區橋和路120號9樓之二
TEL: 886 - 2 - 2248.0810
Fax: 886 - 2 - 2248.0811

Great One Global Certification Co Ltd
9F-2, No.120, Qiaohe Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan (R.O.C.)
Email: sales@go-safety.com.tw

1. Luminaire Specification :

- (1) Input Voltage/Frequency : 120 V ac / 60Hz
- (2) Input Watt : 111 W
- (3) Input Current : 0.933 A
- (4) Total Luminous Flux Output : 7451.66 lm
- (5) Luminaire Efficacy : 67.13 lm/W
- (6) Central Intensity (cd): 22659.38
- (7) Maximum Intensity(cd): 22768.75
- (8) PF: 0.991
- (9) Beam angle: (C0-C180) 26.2 (C90-C270) 26.4

2. Description of EUT Setup :

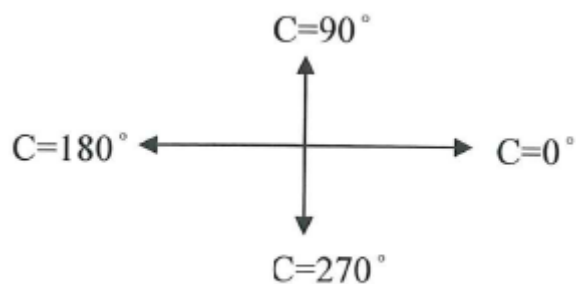
- (1) Operating Orientation : The light source is considered as horizontal.
- (2) Light Source : LED
- (3) Stabilization time : 1 Hour
- (4) Environment Condition : Temperature: 25 ± 1 °C , Humidity: $60 \pm 20\%$



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3. Photograph of EUT :





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4. Equipments List:

Equipment ID	Equipment Type	Manufacturer	Model #	Cal. Date	Due Date	Range Used
L201	2m Integrating Sphere	SENSING		N/A	N/A	
L202	Spetroradiometer	SENSING	SL300	N/A	N/A	
L203	AC Power Source	EXTECH ELECTRONICS	6190	N/A	N/A	AC 0~150VAC4.2A
L204	Goniophotometer-1980	SENSING	GMS1800	N/A	N/A	
L205	GMS-1800B Goniophotometer System	SENSING		2011/11/2	2013/11/1	
L219	AC Power Source	All Power Electrics Co	APW-150N	N/A	N/A	AC 0~150VAC4.2A
L220	Power Meter	Yokogawa	WT-210	2011/8/26	2012/8/25	
L221	Irradiance Standard Lamp	SENSING	LSD1063029	2011/5/23	2012/5/22	
L222	Power Meter	Yokogawa	WT-210	2011/10/13	2012/10/12	