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Goniophotometer Measurement 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 : GO1408200101

Product Name : LED Bay Light

Model No : GL-BL50-WW

Sample No : 14082001-1

Test Specification : IESNA LM-79-08, Approved Method: Electrical and
Photometric Measurements of Solid-State Lighting
Products.

Test Date : 2014-8-22

Issue Date : 2014-8-25

- 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:

Alex Sung

Donald Chang

Project Engineer

Team Leader

Great One Global Certification Co., Ltd.

Product: GL-BL50-WW

Manufacturer: GlacialTech Inc.

Sample No.:14082001-1

Tested By: Alex Sung

Date: 8-22-2014

Reviewed By: David Yuan

Test Condition

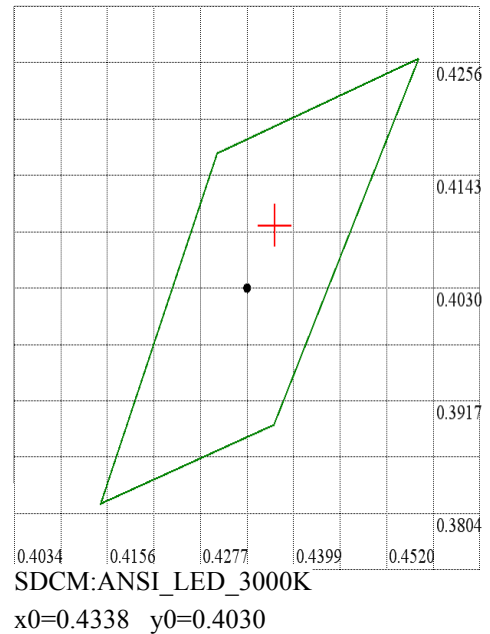
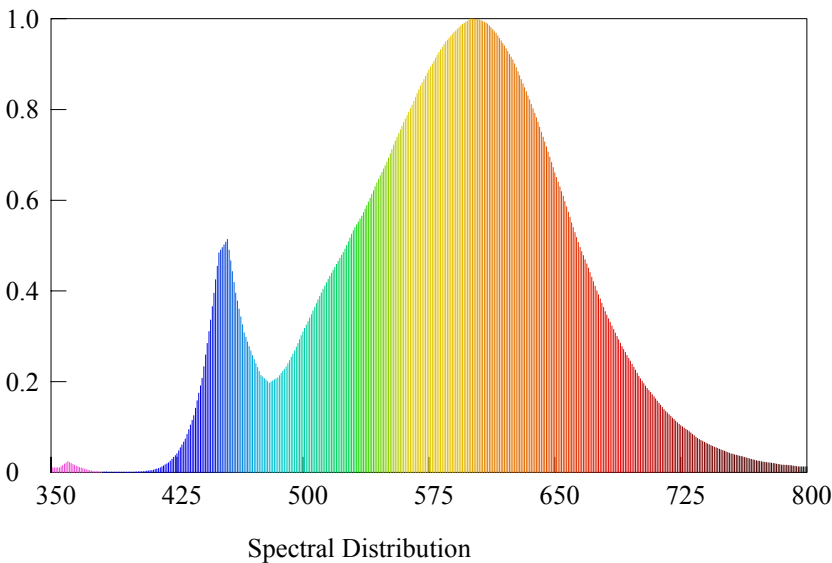
Temperature: 25.4°C

Spectrum Range: 350-800 nm

RH: 60.3%

Scan Step: 5 nm

Spectroradiometric Parameters



Chromaticity Coordinates: $x=0.4374$ $y=0.4093$ $u'=0.2486$ $v'=0.5235$

Correlated Color Temperature: 3034 K

Dominant Wavelength: 580.0 nm(E)

Chromaticity Difference: +0.002Duv

Purity: 0.5445

Color Ratio: $K_r=43.7\%$ $K_g=49.5\%$ $K_b=6.8\%$

Peak Wavelength: 601.7 nm

Bandwidth: 139nm

Color Tolerance: 0.0 SDCM

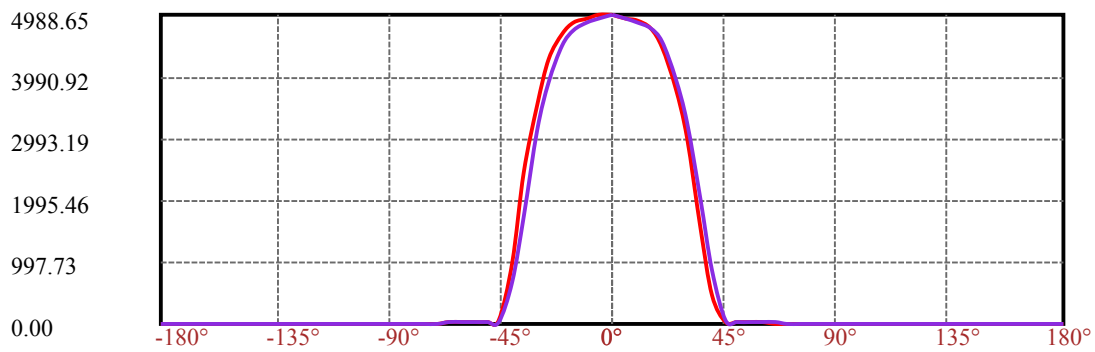
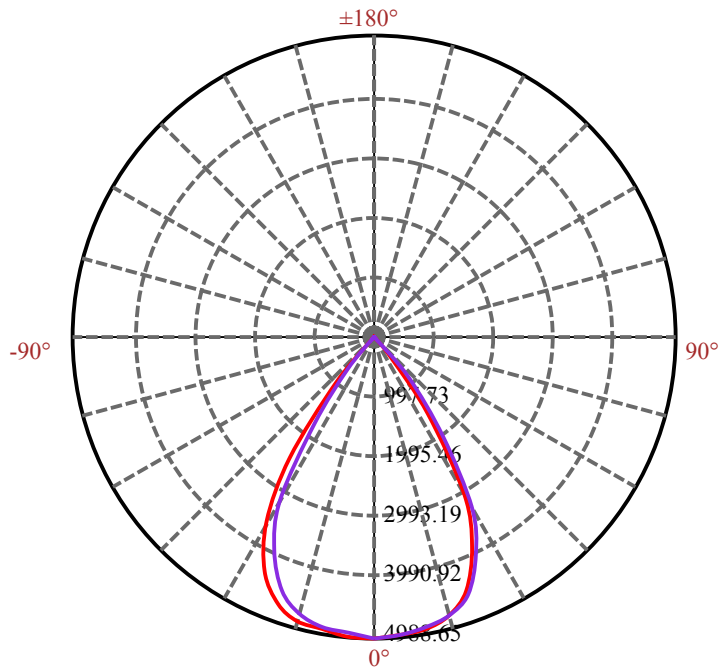
Rendering Index: $R_a=81.3$

Radiant Flux: 16.405 W

R1=79 R2=89 R3=96 R4=78 R5=78 R6=84 R7=85 R8=62

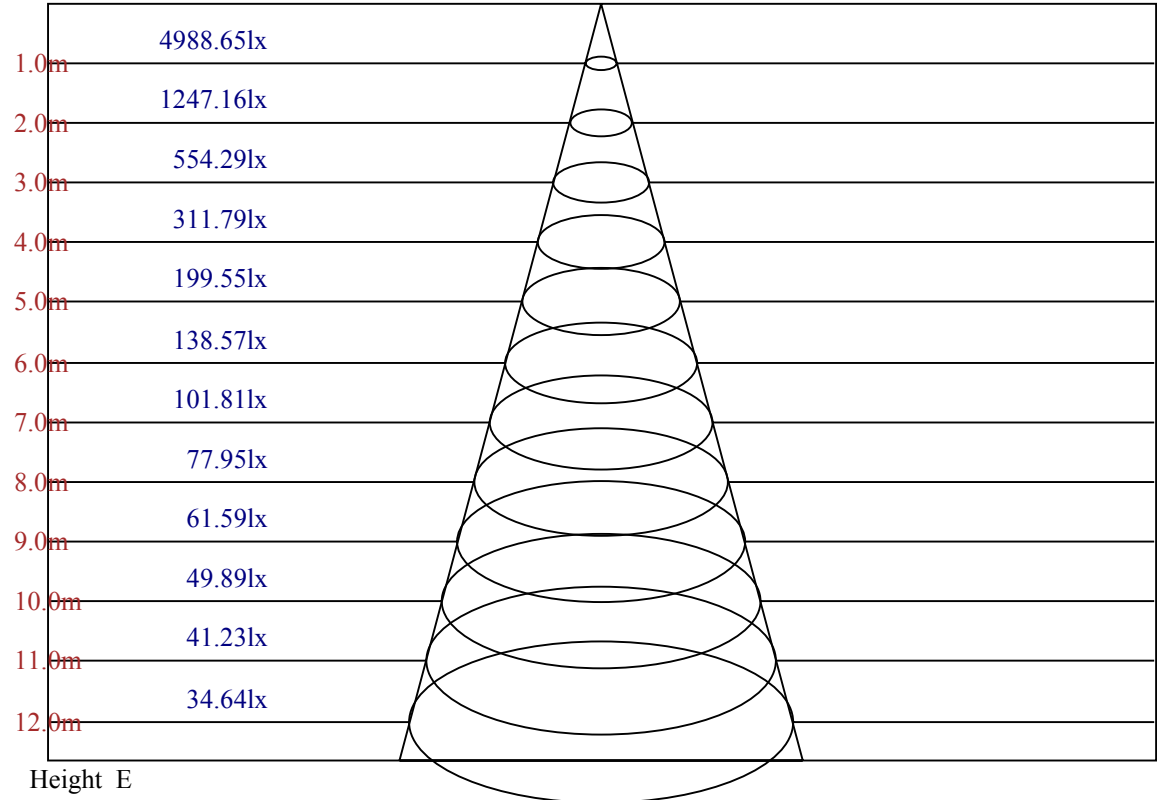
R9=11 R10=73 R11=75 R12=63 R13=81 R14=98 R15=73

Light Distribution Curve [Unit: cd]

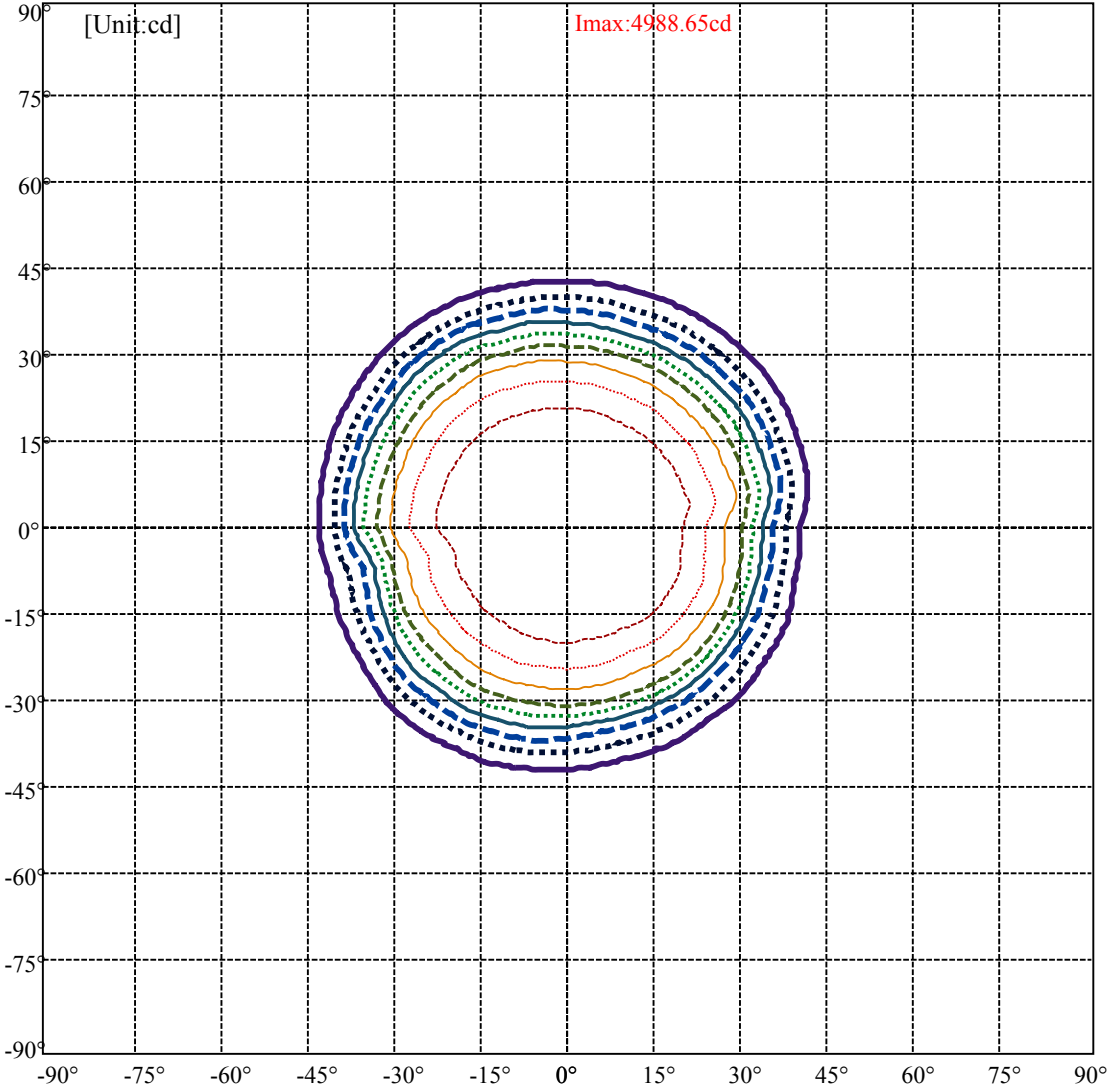


C0/C180: ———
C90/C270: ———

Lux distance Curve



ISO-Intensity(V-H)



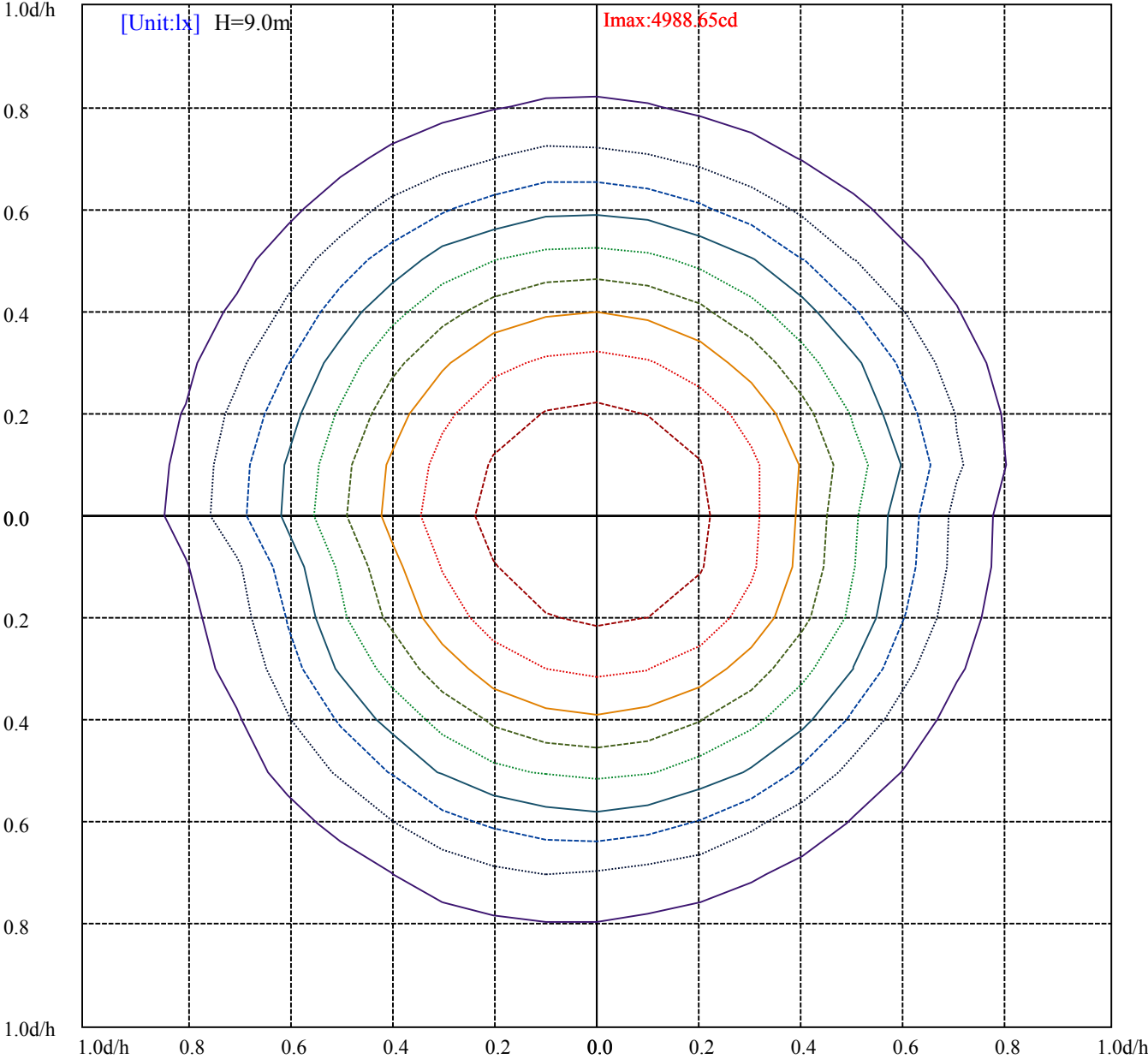
- (10%Imax) 498.627
- (20%Imax) 997.254
- (30%Imax) 1495.88
- (40%Imax) 1994.51
- (50%Imax) 2493.13
- (60%Imax) 2991.76
- (70%Imax) 3490.39
- (80%Imax) 3989.01
- (90%Imax) 4487.64

Equipment: HW-1015
Temperature(°C): 25.4

Date: 2014/8/22
Humidity(%): 60.6%

Operator: Alex Sung
Distance(m): 8.90

ISO illuminance diagram



- (10%Emax) 6.141704
- (20%Emax) 12.28342
- (30%Emax) 18.42506
- (40%Emax) 24.56679
- (50%Emax) 30.70852
- (60%Emax) 36.85025
- (70%Emax) 42.99198
- (80%Emax) 49.13371
- (90%Emax) 55.27531

Equipment: HW-1015
Temperature(°C): 25.4

Date: 2014/8/22
Humidity(%): 60.6%

Operator: Alex Sung
Distance(m): 8.90

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	4988.65	4937.16	4889.63	4770.03	4475.37	3817.13	3001.27	1538.81	466.15
10.0	4972.80	4949.04	4880.13	4840.52	4627.45	4113.38	3421.08	2133.92	785.76
20.0	4964.09	4946.66	4879.34	4817.55	4583.88	4019.91	3321.28	2067.38	767.54
30.0	4976.76	4944.29	4883.30	4802.50	4582.30	4027.04	3303.06	2070.55	824.58
40.0	4973.60	4933.99	4878.54	4774.78	4537.94	3947.03	3230.98	1931.14	746.16
50.0	4975.97	4937.16	4873.00	4760.52	4518.93	3967.63	3200.08	1893.12	742.20
60.0	4968.84	4929.24	4871.42	4747.85	4511.01	3950.99	3200.88	1868.56	744.57
70.0	4977.56	4937.95	4861.91	4754.18	4507.84	3950.20	3191.37	1859.06	753.29
80.0	4975.97	4934.78	4869.83	4766.07	4530.81	3974.76	3249.19	1951.73	832.50
90.0	4979.93	4941.91	4878.54	4762.90	4545.86	3977.93	3265.04	2015.10	876.06
100.0	4980.72	4945.87	4879.34	4781.91	4568.83	4038.92	3336.33	2173.52	900.62
110.0	4981.52	4944.29	4888.05	4789.04	4570.42	4062.68	3368.01	2107.78	895.87
120.0	4978.35	4949.83	4889.63	4801.71	4618.74	4138.72	3451.18	2307.39	946.56
130.0	4983.10	4947.46	4888.84	4812.01	4626.66	4168.03	3430.59	2302.64	948.14
140.0	4984.69	4953.00	4898.35	4826.27	4651.21	4206.05	3481.28	2343.03	946.56
150.0	4983.10	4949.83	4903.10	4832.60	4665.47	4191.79	3485.24	2267.78	917.25
160.0	4983.89	4957.75	4899.14	4843.69	4681.31	4235.36	3494.75	2399.27	994.09
170.0	4986.27	4965.67	4907.06	4853.99	4700.32	4259.12	3545.44	2459.47	990.12
180.0	4988.65	4976.76	4912.60	4859.53	4691.61	4264.67	3535.14	2452.34	981.41
190.0	4972.80	4918.94	4857.95	4744.68	4470.61	3896.34	3174.74	1559.96	667.50
200.0	4964.09	4920.52	4862.70	4746.26	4499.92	3973.17	3239.69	1763.21	670.99
210.0	4976.76	4919.73	4854.78	4735.17	4480.12	3950.20	3249.99	1953.32	662.75
220.0	4973.60	4918.94	4857.16	4735.17	4473.78	3943.07	3186.62	2069.76	799.23
230.0	4975.97	4920.52	4853.20	4724.08	4469.82	3935.94	3200.08	1939.85	810.32
240.0	4968.84	4921.32	4851.61	4720.12	4467.44	3918.52	3220.68	2036.49	747.90
250.0	4977.56	4921.32	4857.95	4717.75	4466.65	3944.66	3188.99	1938.27	823.63
260.0	4975.97	4914.98	4859.53	4725.67	4474.57	3887.63	3129.59	1927.97	743.78
270.0	4979.93	4914.19	4859.53	4732.80	4479.33	3893.96	3136.72	1737.08	694.04
280.0	4980.72	4918.94	4859.53	4729.63	4455.56	3884.46	3120.08	1580.87	602.39
290.0	4981.52	4916.56	4868.25	4743.89	4469.82	3849.61	3068.60	1571.69	545.76
300.0	4978.35	4910.23	4882.50	4754.98	4472.99	3824.26	3079.69	1545.63	562.15
310.0	4983.10	4922.90	4883.30	4799.33	4530.81	3911.39	3141.47	1577.55	483.58
320.0	4984.69	4922.11	4888.84	4800.13	4552.20	3916.93	3143.84	1551.49	534.91
330.0	4983.10	4927.65	4893.59	4811.22	4570.42	3954.16	3141.47	1580.08	484.53
340.0	4983.89	4928.45	4895.18	4805.67	4547.45	3990.60	3206.42	1571.69	545.84
350.0	4986.27	4923.69	4888.84	4786.66	4489.62	3845.65	3070.97	1574.93	453.48
360.0	4988.65	4937.16	4889.63	4770.03	4475.37	3817.13	3001.27	1538.81	466.15

GlacialTech Inc.

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	37.78	28.28	22.26	18.46	15.05	11.88	9.11	6.57	3.96
10.0	46.97	29.39	23.45	18.61	15.29	12.12	9.27	6.81	4.20
20.0	46.81	29.47	23.29	18.85	15.53	12.20	9.43	6.97	4.20
30.0	46.18	29.62	23.45	18.69	15.45	12.20	9.51	6.81	4.20
40.0	42.85	29.07	22.97	18.46	15.13	12.12	9.27	6.81	4.20
50.0	45.15	29.07	22.65	18.30	14.97	11.96	9.19	6.73	3.96
60.0	45.07	29.15	22.73	18.46	15.37	12.04	9.35	6.65	3.88
70.0	45.39	29.31	23.05	18.54	15.21	12.20	9.43	6.81	3.96
80.0	45.70	29.39	23.21	18.77	15.68	12.36	9.58	6.97	4.28
90.0	47.68	30.42	24.32	19.56	15.76	12.52	9.74	7.05	4.36
100.0	49.74	31.13	25.03	19.72	16.24	12.83	9.98	7.37	4.51
110.0	50.38	31.60	24.71	19.88	16.48	12.83	9.82	7.37	4.51
120.0	51.96	32.40	25.51	20.28	16.40	13.07	10.14	7.52	4.75
130.0	51.72	32.16	25.74	20.44	16.71	13.07	10.14	7.52	4.75
140.0	53.63	32.56	25.90	20.52	16.95	13.23	10.38	7.60	4.83
150.0	53.39	32.48	25.82	20.59	17.03	13.47	10.46	7.60	4.67
160.0	53.55	32.95	26.22	20.52	17.03	13.62	10.46	7.60	4.91
170.0	53.70	33.59	26.38	20.75	17.11	13.78	10.53	7.84	4.91
180.0	52.99	33.03	26.14	20.52	17.03	13.62	10.61	7.60	4.75
190.0	41.98	29.86	24.24	19.96	16.40	13.23	10.38	7.29	4.44
200.0	43.33	29.62	23.84	19.72	16.40	13.07	10.30	7.21	4.36
210.0	42.93	29.70	24.24	19.80	16.16	12.83	10.14	7.05	4.44
220.0	44.04	30.26	24.08	19.80	16.55	13.07	10.22	7.29	4.44
230.0	44.12	29.94	24.40	19.80	16.48	13.07	10.30	7.52	4.51
240.0	42.69	29.94	23.76	19.72	16.40	12.99	10.22	7.29	4.44
250.0	43.64	30.02	23.84	19.56	16.40	12.83	10.06	7.21	4.44
260.0	41.90	29.31	23.45	19.33	16.00	12.59	9.82	7.05	4.20
270.0	39.05	28.99	23.13	19.09	15.60	12.44	9.58	6.73	4.12
280.0	37.86	28.75	22.73	19.09	15.68	12.20	9.58	6.73	3.96
290.0	38.81	28.67	22.73	18.77	15.45	12.44	9.58	6.89	3.88
300.0	37.78	28.83	23.13	19.01	15.45	12.36	9.58	6.81	3.88
310.0	36.60	28.20	22.65	18.61	15.05	11.96	9.27	6.57	3.80
320.0	37.07	28.44	22.34	18.38	14.89	11.88	8.95	6.50	3.56
330.0	37.23	28.91	22.50	18.38	15.13	11.80	9.03	6.50	3.64
340.0	38.81	28.67	22.65	18.46	15.05	11.80	9.27	6.50	3.80
350.0	36.91	29.07	22.57	18.38	15.05	11.88	9.11	6.57	3.72
360.0	37.78	28.28	22.26	18.46	15.05	11.88	9.11	6.57	3.96

Equipment: HW-1015
 Temperature(°C): 25.4

Date: 2014/8/22
 Humidity(%): 60.6%

Operator: Alex Sung
 Distance(m): 8.90

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	0.55	0.55	0.55	0.48	0.48	0.48	0.55	0.55	0.71
10.0	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.79	0.79
20.0	0.55	0.63	0.55	0.63	0.63	0.63	0.71	0.63	0.79
30.0	0.55	0.55	0.48	0.63	0.55	0.71	0.63	0.79	0.79
40.0	0.55	0.63	0.71	0.48	0.48	0.55	0.63	0.71	0.95
50.0	0.55	0.63	0.55	0.55	0.63	0.63	0.63	0.71	0.87
60.0	0.63	0.63	0.63	0.55	0.63	0.55	0.63	0.79	0.87
70.0	0.63	0.55	0.55	0.63	0.48	0.63	0.63	0.55	0.71
80.0	0.55	0.48	0.63	0.55	0.71	0.63	0.63	0.71	0.95
90.0	0.71	0.63	0.55	0.63	0.55	0.63	0.63	0.79	0.87
100.0	0.95	0.63	0.63	0.55	0.55	0.63	0.63	0.63	0.87
110.0	0.71	0.71	0.63	0.55	0.55	0.55	0.63	0.71	0.87
120.0	1.11	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.79
130.0	1.11	0.55	0.55	0.63	0.55	0.55	0.63	0.71	0.79
140.0	1.50	0.63	0.63	0.63	0.63	0.63	0.55	0.63	0.87
150.0	1.43	0.48	0.55	0.48	0.55	0.55	0.63	0.79	0.95
160.0	1.19	0.63	0.63	0.55	0.63	0.63	0.71	0.63	0.95
170.0	1.58	0.71	0.55	0.55	0.63	0.55	0.55	0.63	0.79
180.0	1.43	0.55	0.55	0.55	0.63	0.55	0.63	0.63	0.79
190.0	1.03	0.55	0.55	0.48	0.48	0.55	0.55	0.55	0.63
200.0	1.11	0.55	0.55	0.63	0.48	0.48	0.55	0.63	0.71
210.0	1.03	0.63	0.55	0.55	0.40	0.55	0.55	0.55	0.71
220.0	1.19	0.63	0.55	0.48	0.55	0.48	0.55	0.55	0.71
230.0	1.43	0.48	0.55	0.55	0.55	0.55	0.63	0.48	0.63
240.0	1.27	0.48	0.55	0.48	0.55	0.55	0.55	0.55	0.63
250.0	1.11	0.55	0.55	0.48	0.48	0.55	0.55	0.55	0.71
260.0	0.63	0.63	0.55	0.55	0.63	0.55	0.48	0.63	0.71
270.0	0.55	0.55	0.55	0.55	0.55	0.48	0.55	0.55	0.71
280.0	0.63	0.55	0.48	0.48	0.55	0.48	0.63	0.48	0.79
290.0	0.48	0.55	0.63	0.48	0.48	0.55	0.55	0.63	0.71
300.0	0.55	0.48	0.55	0.48	0.48	0.48	0.55	0.71	0.71
310.0	0.55	0.63	0.55	0.55	0.55	0.55	0.63	0.55	0.79
320.0	0.55	0.48	0.55	0.55	0.55	0.55	0.48	0.71	0.79
330.0	0.48	0.48	0.63	0.55	0.63	0.55	0.55	0.55	0.71
340.0	0.55	0.55	0.55	0.55	0.55	0.63	0.48	0.71	0.87
350.0	0.40	0.48	0.55	0.55	0.55	0.55	0.55	0.63	0.71
360.0	0.55	0.55	0.55	0.48	0.48	0.48	0.55	0.55	0.71

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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	0.87	0.87	1.03	1.11	1.27	1.43	1.50	1.58	1.74
10.0	1.11	1.35	1.50	1.66	1.82	1.98	2.06	2.06	1.90
20.0	1.03	1.19	1.58	1.66	1.90	1.82	1.82	1.98	1.90
30.0	1.03	1.27	1.50	1.58	1.74	1.90	1.98	1.98	1.98
40.0	1.03	1.27	1.43	1.74	1.74	1.82	1.90	1.98	1.90
50.0	1.11	1.11	1.43	1.58	1.74	1.90	1.90	1.98	1.90
60.0	1.03	1.19	1.43	1.58	1.90	1.98	1.98	1.98	1.98
70.0	1.03	1.27	1.50	1.58	1.74	1.90	1.90	1.98	1.90
80.0	1.11	1.27	1.35	1.58	1.82	1.82	1.90	2.06	1.98
90.0	1.03	1.19	1.43	1.66	1.82	1.90	1.98	1.90	1.98
100.0	1.03	1.11	1.50	1.58	1.66	1.90	1.98	2.06	1.98
110.0	1.03	1.27	1.43	1.74	1.82	1.90	1.82	1.98	1.98
120.0	1.03	1.27	1.50	1.50	1.74	1.98	1.90	1.98	1.98
130.0	1.03	1.19	1.43	1.58	1.74	2.06	2.06	2.06	1.98
140.0	1.03	1.19	1.50	1.74	1.74	1.90	2.14	2.06	1.90
150.0	0.95	1.27	1.50	1.66	1.74	1.98	1.98	2.06	2.14
160.0	1.03	1.27	1.50	1.66	1.90	2.06	1.90	2.14	2.06
170.0	1.03	1.19	1.50	1.66	1.74	1.98	1.98	1.98	1.90
180.0	0.95	1.11	1.50	1.66	1.74	1.90	1.90	2.14	1.90
190.0	0.87	0.87	1.03	1.19	1.19	1.35	1.58	1.66	1.66
200.0	0.79	0.95	1.03	1.19	1.19	1.43	1.50	1.50	1.74
210.0	0.87	0.95	1.03	1.11	1.27	1.35	1.43	1.50	1.58
220.0	0.87	0.87	1.03	1.11	1.19	1.35	1.35	1.50	1.66
230.0	0.79	0.95	1.03	1.19	1.19	1.35	1.35	1.50	1.66
240.0	0.87	0.95	0.95	1.03	1.27	1.35	1.58	1.50	1.74
250.0	0.87	0.87	1.11	1.19	1.19	1.19	1.35	1.58	1.66
260.0	0.87	0.87	1.11	1.11	1.19	1.35	1.50	1.58	1.66
270.0	0.87	0.95	1.03	1.19	1.35	1.43	1.50	1.66	1.82
280.0	0.79	0.87	1.03	1.19	1.35	1.35	1.58	1.66	1.74
290.0	0.87	0.95	1.11	1.27	1.27	1.43	1.50	1.66	1.74
300.0	0.79	0.95	1.11	1.19	1.27	1.50	1.66	1.66	1.74
310.0	0.87	0.87	1.03	1.19	1.35	1.50	1.58	1.58	1.82
320.0	0.95	0.95	1.11	1.11	1.35	1.43	1.58	1.66	1.82
330.0	0.87	1.03	1.11	1.19	1.43	1.43	1.58	1.66	1.90
340.0	0.87	1.03	1.11	1.19	1.27	1.35	1.50	1.66	1.82
350.0	0.87	0.87	1.11	1.19	1.35	1.35	1.58	1.66	1.82
360.0	0.87	0.87	1.03	1.11	1.27	1.43	1.50	1.58	1.74

Equipment: HW-1015
 Temperature(°C): 25.4

Date: 2014/8/22
 Humidity(%): 60.6%

Operator: Alex Sung
 Distance(m): 8.90

Intensity data(cd)

C/ γ ($^{\circ}$)	180.0
0.0	2.06
10.0	1.90
20.0	1.82
30.0	1.90
40.0	1.90
50.0	1.90
60.0	1.82
70.0	1.82
80.0	1.90
90.0	1.90
100.0	2.06
110.0	1.98
120.0	1.98
130.0	2.06
140.0	1.98
150.0	1.98
160.0	2.06
170.0	1.90
180.0	2.06
190.0	1.90
200.0	1.82
210.0	1.90
220.0	1.90
230.0	1.90
240.0	1.82
250.0	1.82
260.0	1.90
270.0	1.90
280.0	2.06
290.0	1.98
300.0	1.98
310.0	2.06
320.0	1.98
330.0	1.98
340.0	2.06
350.0	1.90
360.0	2.06



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 : 240.00 Vac / 50 Hz
- (2) Input Watt : 45.52 W
- (3) Input Current : 0.202 A
- (4) Total Luminous Flux Output : 5054.59 lm
- (5) Luminaire Efficacy : 111.04 lm/W
- (6) Central Intensity (cd) : 4988.645
- (7) Maximum Intensity(cd) : 4988.645
- (8) PF : 0.940
- (9) Beam angle : (C0-C180) 68.9 (C90-C270) 65.4
- (10) Correlated Color Temperature (CCT) : 3034 K
- (11) Color Rendering Index (CRI) : 81.3

2. Description of EUT Setup :

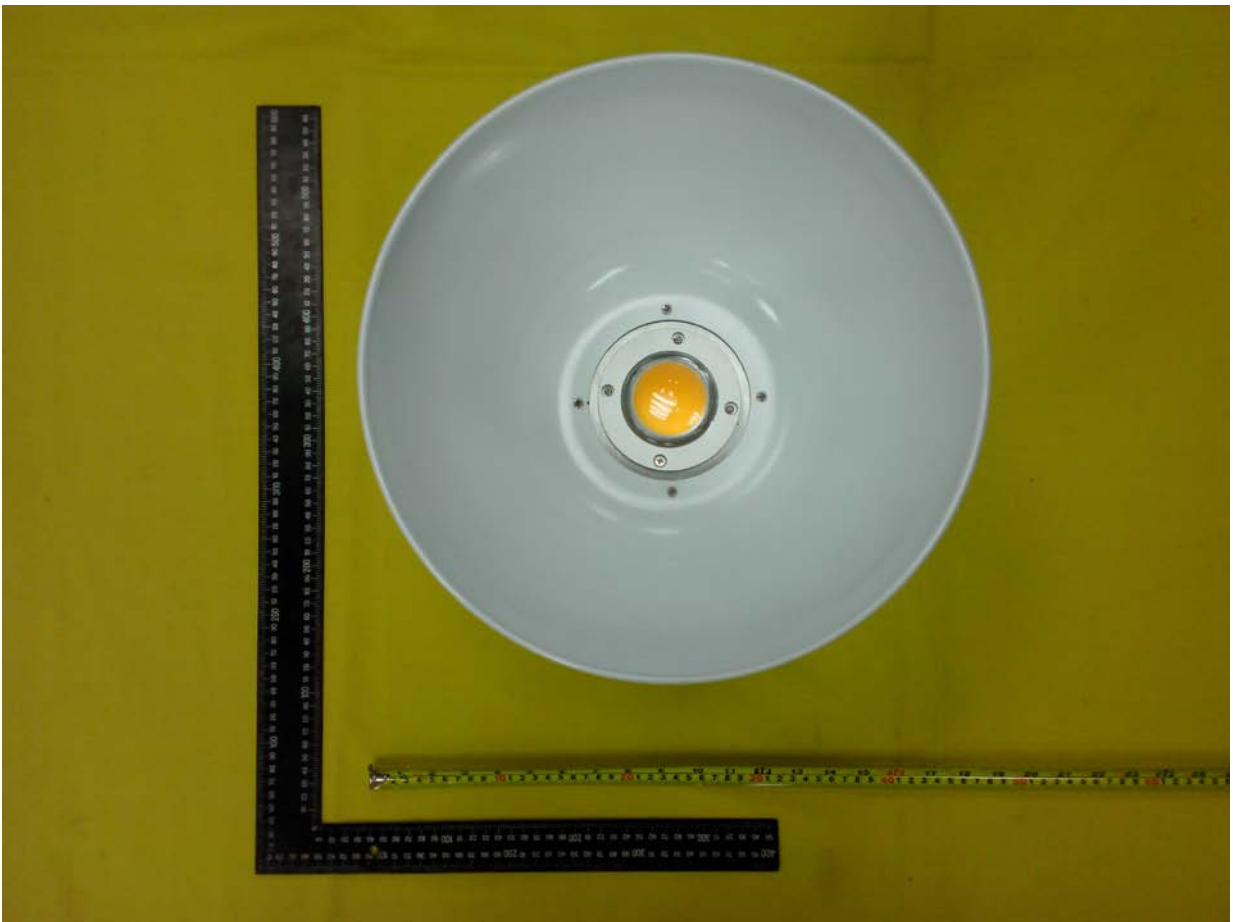
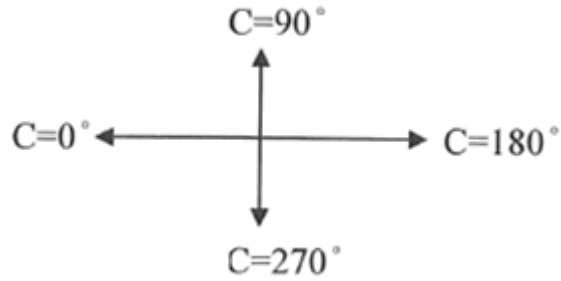
- (1) Operating Orientation : The light source is considered as horizontal
- (2) Light Source : LED
- (3) Stabilization time : 1 Hour
- (4) Environment Condition : Temperature: 25 ± 1 °C , Humidity: $60\pm 20\%$



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3. Photograph of EUT :





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4. Equipments List :

Equipment ID	Equipment Type	Cal. Date	Due Date	Range Used
L201	Integrating Sphere	N/A	N/A	
L202	Spetroradiometer	N/A	N/A	
L203	AC Power Source	N/A	N/A	
L204	Goniophotometer Photo Detector	N/A	N/A	
L218	Goniophotometer System	N/A	N/A	
L219	AC Power Source	N/A	N/A	AC 0~150VAC4.2A AC0~300VAC2.1A
L220	Power Meter	2013/8/25	2014/8/26	V : Auto (0~300Vac) A : Auto (0~20A)
L221	Luminous Intensity Lamp	2013/11/13	2014/11/12	
L222	Power Meter	2013/10/11	2014/10/10	V : Auto (0~300Vac) A : Auto (0~20A)
L244	Standard Light Source	2014/1/3	2015/1/2	