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Optical Report For Luminaires

Applicant..... : GlacialTech Inc.

Applicant Add : 9F1, No. 352, Sec. 2, Jung Shan Rd., Jung He Dist., New Taipei
City 235, Taiwan (R.O.C.)

Report No : GO1502130202E

Product Name..... : LED Panel Light

Model No : GL-PL0303-V2-CW

Sample No..... : 15021302-2

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 : March 17, 2015

Issue Date..... : March 17, 2015

- Note:
1. The test results of this report relate only to the tested sample identified in this report.
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 3. The data in report cannot be used for advertisement, publication and promotion.

Tested By :

Reviewed By :

Alex Sung

Donald Chang

Project Engineer

Team Leader

Great One Global Certification Co., Ltd.

Product:GL-PL0303-V2-CW
Manufacturer: GlacialTech Inc
Sample No.: 15021302-2
Tested By: Alex Sung

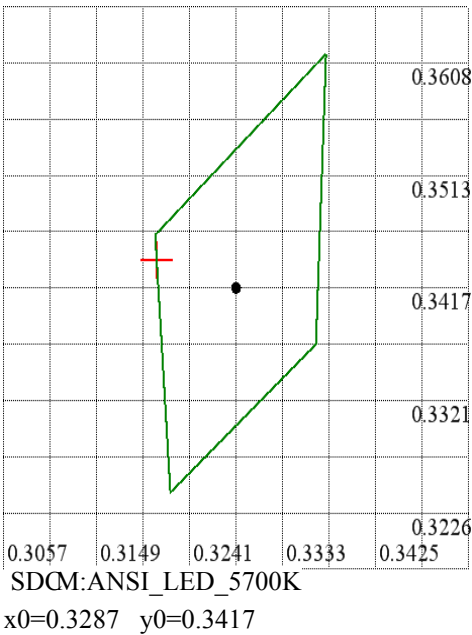
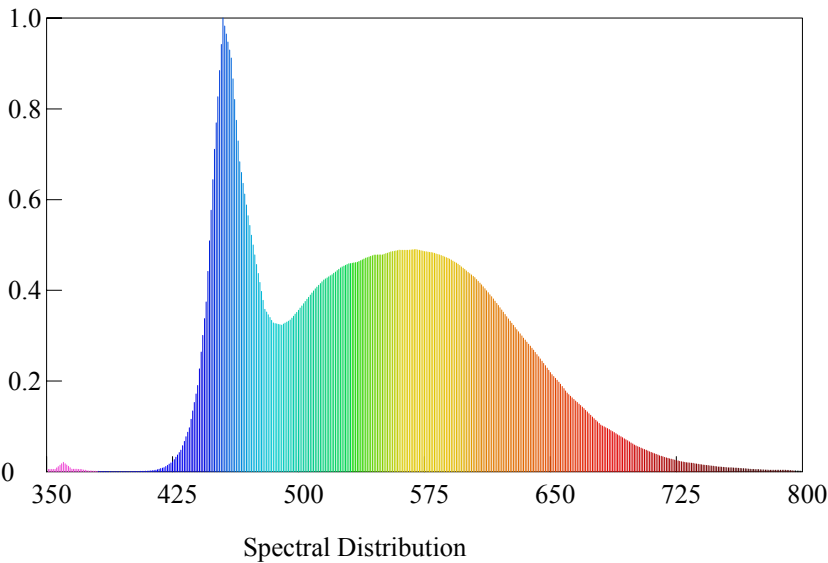
Date:3-17-2015
Reviewed By: David Yuan

Test Condition

Temperature: 25.0°C
Spectrum Range: 350-800 nm

RH:60.0%
Scan Step: 5 nm

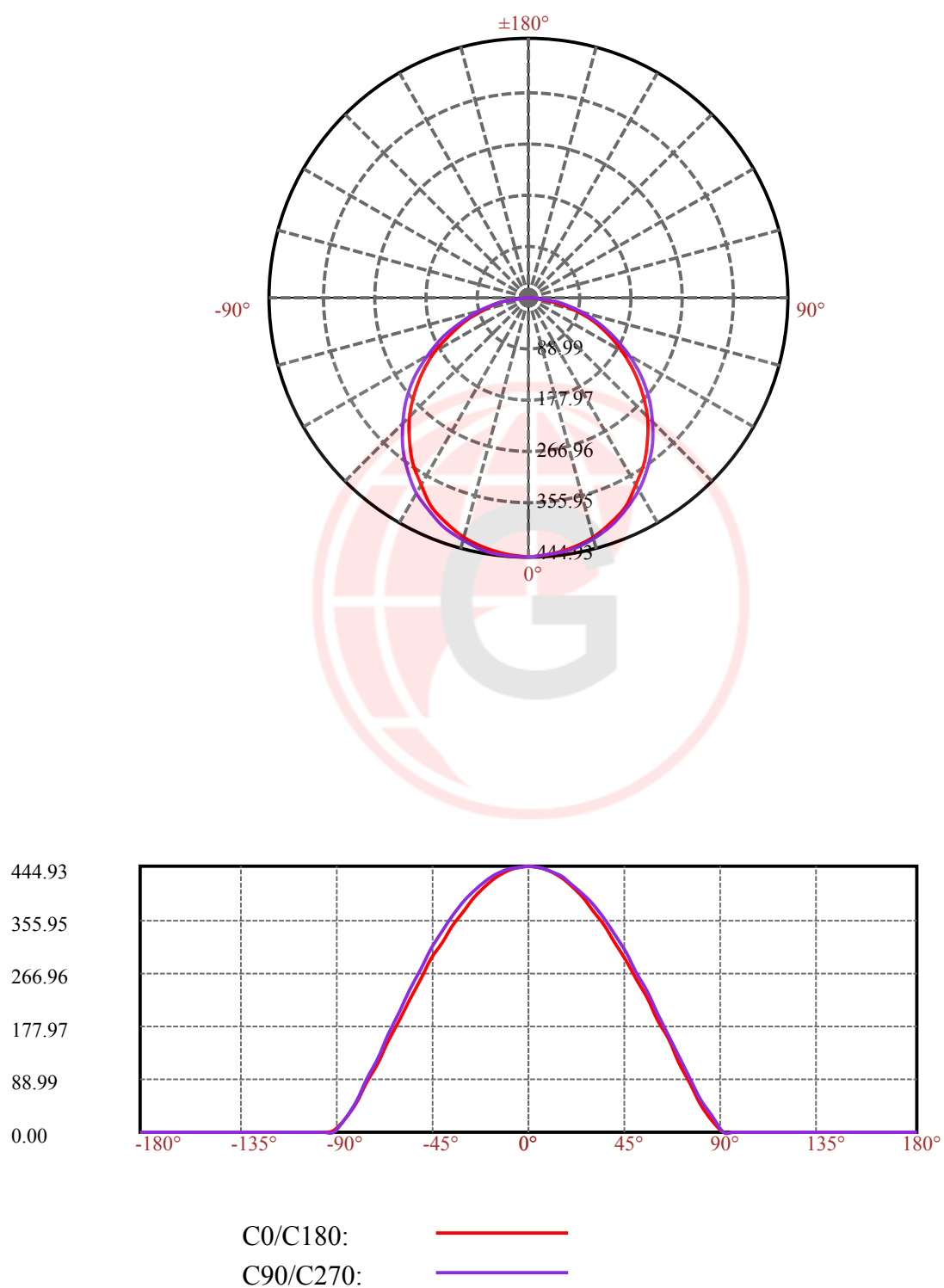
Spectroradiometric Parameters



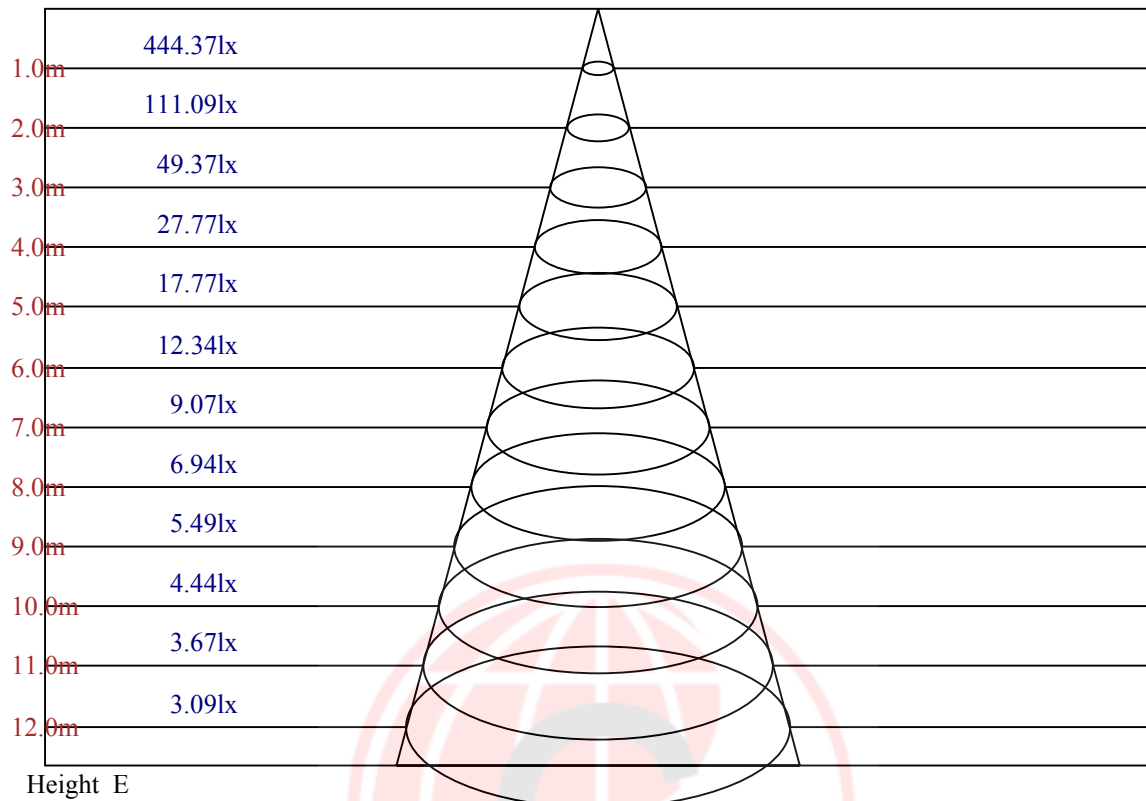
Chromaticity Coordinates: x=0.3208 y=0.3441 u'=0.1978 v'=0.4773
Correlated Color Temperature: 6022 K
Chromaticity Difference: +0.00686Duv
Color Ratio: Kr=30.9% Kg=55.4% Kb=13.7%
Bandwidth:26nm
Rendering Index: Ra=84.4
Dominant Wavelength: 503.0 nm(E)
Purity:0.0384
Peak Wavelength: 456.3 nm
Color Tolerance: 0.0 SDCM
Radiant Flux: 4.079 W

R1=83 R2=94 R3=94 R4=78 R5=82 R6=89 R7=85 R8=69
R9=16 R10=84 R11=78 R12=58 R13=88 R14=97 R15=78

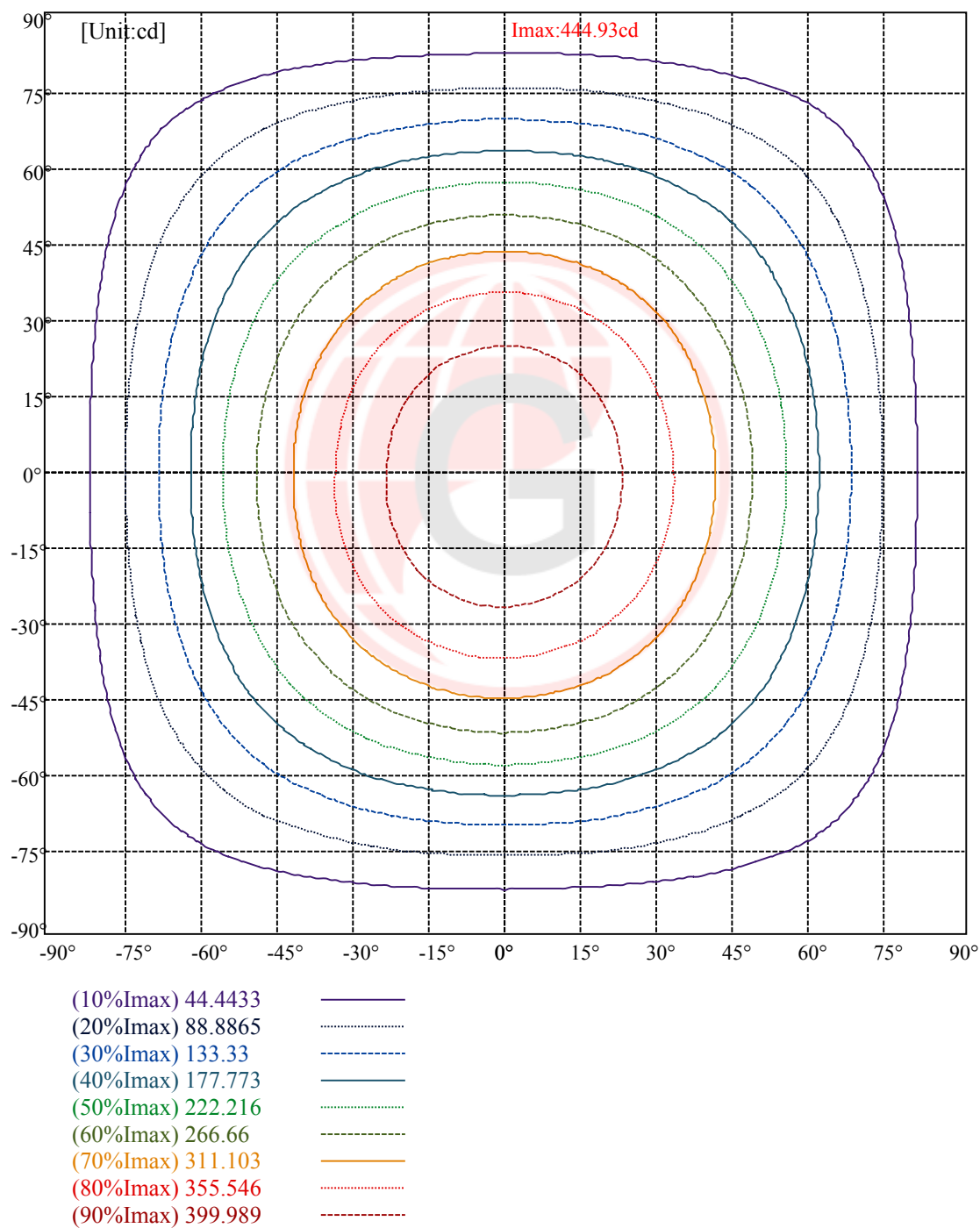
Light Distribution Curve [Unit: cd]



Lux distance Curve



ISO-Intensity(V-H)

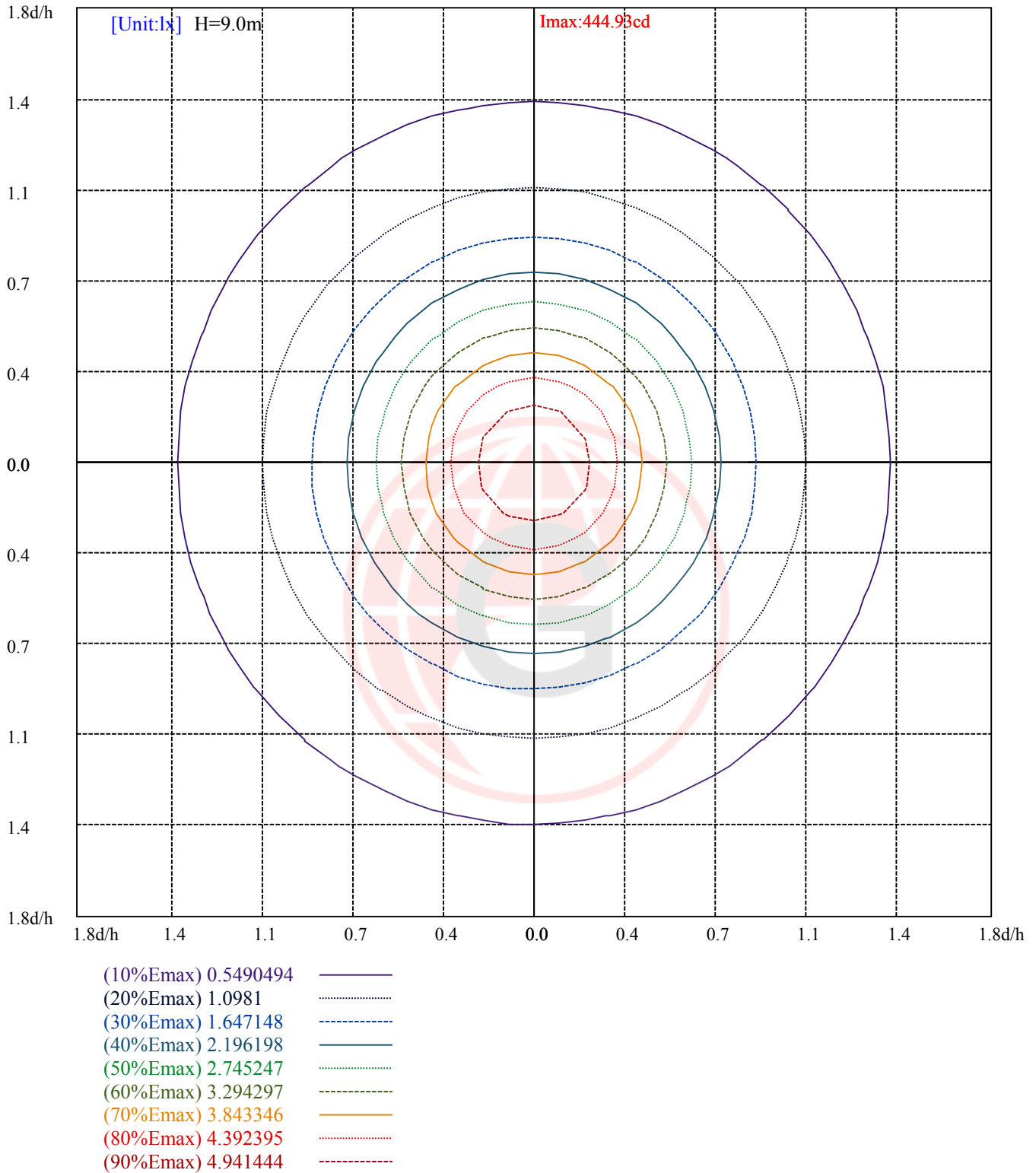


Equipment: HW-1015
Temperature(°C): 25.5

Date: 2015/3/17
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 9.00

ISO illuminance diagram



Equipment: HW-1015
Temperature(°C): 25.5

Date: 2015/3/17
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 9.00

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	444.37	441.94	435.62	424.93	410.51	392.69	370.90	345.87	318.09
10.0	444.20	441.61	434.81	424.76	410.27	391.96	370.17	346.11	318.41
20.0	444.29	441.86	435.13	424.60	410.91	392.93	371.22	346.52	318.82
30.0	444.69	442.26	435.62	425.57	411.40	393.50	372.11	348.30	320.84
40.0	444.69	442.18	435.86	425.49	412.05	395.04	373.98	350.57	323.43
50.0	444.77	442.34	436.35	426.71	413.10	396.58	376.25	352.03	325.05
60.0	444.85	442.26	436.35	426.87	414.23	397.55	377.30	353.32	326.51
70.0	444.69	442.26	436.51	427.36	414.48	398.12	378.76	355.19	328.54
80.0	444.37	442.18	436.35	427.44	414.88	399.33	379.57	356.48	329.67
90.0	444.20	441.53	436.35	427.36	414.88	398.93	380.05	356.81	330.40
100.0	444.04	441.69	436.19	427.19	414.64	398.60	379.40	356.08	329.51
110.0	444.29	441.86	436.51	427.36	414.72	397.87	379.08	355.75	328.78
120.0	444.69	442.26	436.59	427.44	414.40	397.79	377.46	354.38	327.48
130.0	444.69	442.42	436.35	427.03	413.51	396.33	375.60	352.19	324.97
140.0	444.85	442.42	436.43	426.22	412.37	395.36	374.95	350.57	323.03
150.0	444.93	442.50	436.02	425.66	412.29	394.39	373.65	349.03	321.33
160.0	444.69	442.34	435.78	426.06	411.80	393.74	372.03	346.84	319.87
170.0	444.61	442.26	435.78	425.17	411.08	392.69	370.66	345.55	319.30
180.0	444.12	442.10	435.86	425.25	410.67	392.93	371.14	345.71	318.49
190.0	444.04	442.58	436.83	426.71	412.37	394.39	373.25	348.30	320.36
200.0	444.29	442.91	437.16	427.28	413.59	396.25	374.87	349.84	321.89
210.0	444.69	443.15	437.97	428.49	414.88	397.55	376.73	352.92	325.13
220.0	444.69	443.48	438.62	429.62	416.58	399.74	379.00	355.35	327.56
230.0	444.77	443.88	438.94	430.60	418.28	401.92	381.67	358.26	330.97
240.0	444.85	443.80	439.26	430.92	418.93	403.30	383.37	359.56	332.10
250.0	444.69	443.80	439.43	431.41	419.82	404.27	384.59	360.94	334.61
260.0	444.37	443.48	439.34	431.89	420.55	405.08	385.64	363.04	336.07
270.0	444.20	443.07	439.18	431.41	420.07	404.76	385.97	362.88	335.83
280.0	444.04	442.99	438.78	431.08	419.58	404.11	384.59	361.83	334.69
290.0	444.29	443.15	438.62	430.76	418.85	402.89	383.29	359.56	334.04
300.0	444.69	443.31	438.78	430.35	418.45	402.41	382.64	358.99	331.78
310.0	444.69	443.39	438.45	429.46	416.83	400.06	379.49	355.43	328.78
320.0	444.85	443.48	437.97	429.06	415.85	398.76	377.87	354.21	326.75
330.0	444.93	443.15	437.56	428.00	414.23	396.74	375.35	351.38	323.76
340.0	444.69	442.99	437.08	426.87	412.86	394.79	373.98	348.95	321.17
350.0	444.61	442.42	436.19	425.74	411.40	393.09	372.03	347.00	319.30
360.0	444.37	441.94	435.62	424.93	410.51	392.69	370.90	345.87	318.09

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	288.68	256.28	222.51	187.35	153.82	116.24	80.60	47.47	20.66
10.0	288.04	256.85	222.99	188.08	152.12	116.88	81.24	48.11	19.44
20.0	289.49	257.26	223.32	188.24	152.20	117.05	81.16	48.11	19.52
30.0	290.63	258.47	224.45	189.05	153.98	117.69	84.00	50.38	21.30
40.0	293.46	261.14	226.88	192.54	156.17	119.64	83.75	50.22	21.71
50.0	295.00	263.66	229.64	193.83	157.38	120.69	86.02	52.25	22.03
60.0	297.59	265.44	232.23	196.34	160.79	123.85	87.89	54.03	23.41
70.0	298.73	267.30	233.12	197.24	162.73	125.79	89.67	55.73	24.87
80.0	300.11	267.71	234.41	198.45	161.76	124.74	90.32	56.30	26.33
90.0	300.43	268.68	234.25	198.37	161.60	126.77	89.59	55.73	26.73
100.0	299.70	268.52	234.17	198.21	161.43	125.63	89.42	55.57	24.46
110.0	299.94	267.71	233.28	197.56	160.79	123.93	89.18	55.32	24.46
120.0	297.76	265.36	231.98	196.18	159.49	122.88	88.45	55.24	24.79
130.0	294.84	262.36	227.85	193.19	157.95	122.72	87.56	54.68	24.71
140.0	293.79	261.39	227.04	191.40	156.33	120.29	85.62	52.73	24.38
150.0	290.95	259.44	225.34	189.95	153.90	119.23	84.65	51.84	23.00
160.0	289.49	257.09	222.91	188.73	153.01	117.29	82.78	51.27	22.68
170.0	288.77	256.28	223.32	188.16	152.44	116.96	83.35	51.03	22.52
180.0	288.93	256.45	222.43	187.11	151.31	115.75	82.46	50.63	22.03
190.0	289.82	258.23	223.80	188.33	152.44	117.69	83.03	50.95	21.79
200.0	292.41	259.44	224.94	189.05	153.82	117.77	82.94	50.54	21.22
210.0	295.57	262.60	227.69	191.40	154.95	119.39	83.92	51.35	22.60
220.0	297.03	263.82	229.80	193.27	156.17	121.50	85.62	52.25	22.68
230.0	300.35	267.22	232.96	196.26	158.68	121.26	84.97	52.49	22.68
240.0	301.64	269.33	235.06	199.18	161.27	123.36	86.67	52.65	23.33
250.0	304.16	270.95	235.31	197.96	162.41	124.17	88.21	53.87	23.25
260.0	305.86	272.57	237.25	201.20	162.97	124.74	87.48	52.97	22.03
270.0	305.61	272.57	238.22	201.12	163.13	124.90	87.72	53.22	22.92
280.0	304.64	271.59	236.12	200.39	162.41	124.42	87.40	52.49	21.95
290.0	302.94	269.97	235.79	200.07	162.32	125.63	88.45	52.73	20.82
300.0	301.48	268.76	234.82	198.05	160.46	122.80	87.24	52.41	20.66
310.0	298.40	265.36	231.90	195.62	159.57	122.15	85.70	52.00	20.74
320.0	296.38	263.41	229.72	193.75	156.90	119.88	83.43	49.57	20.17
330.0	293.46	260.66	226.07	191.32	154.87	118.18	83.92	50.06	20.33
340.0	290.71	259.20	224.94	189.46	153.09	117.69	81.65	48.20	19.12
350.0	288.85	257.34	223.40	188.08	152.04	116.64	81.97	48.68	19.76
360.0	288.68	256.28	222.51	187.35	153.82	116.24	80.60	47.47	20.66

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	0.89	0.81	0.81	0.73	0.65	0.73	0.65	0.65	0.57
10.0	0.97	0.73	0.73	0.73	0.49	0.65	0.65	0.65	0.65
20.0	0.97	0.81	0.73	0.73	0.49	0.65	0.73	0.73	0.57
30.0	0.97	0.89	0.73	0.73	0.57	0.73	0.73	0.49	0.65
40.0	1.13	0.73	0.73	0.65	0.65	0.73	0.65	0.65	0.65
50.0	0.97	0.73	0.73	0.65	0.65	0.57	0.57	0.65	0.65
60.0	0.97	0.81	0.73	0.73	0.73	0.65	0.57	0.57	0.65
70.0	0.89	0.73	0.57	0.57	0.57	0.65	0.57	0.57	0.65
80.0	0.81	0.73	0.65	0.57	0.57	0.57	0.57	0.57	0.65
90.0	0.97	0.73	0.49	0.57	0.65	0.65	0.57	0.57	0.57
100.0	1.22	0.65	0.57	0.49	0.57	0.57	0.65	0.73	0.57
110.0	0.97	0.73	0.65	0.65	0.65	0.57	0.49	0.49	0.65
120.0	1.30	0.81	0.57	0.73	0.65	0.65	0.57	0.49	0.65
130.0	1.70	0.89	0.73	0.65	0.57	0.65	0.65	0.65	0.57
140.0	1.62	0.97	0.73	0.65	0.73	0.57	0.57	0.65	0.57
150.0	1.70	1.05	0.89	0.73	0.65	0.57	0.65	0.65	0.57
160.0	1.54	1.13	0.81	0.73	0.65	0.57	0.57	0.73	0.57
170.0	1.38	1.13	0.89	0.65	0.57	0.65	0.65	0.57	0.73
180.0	1.46	1.13	0.97	0.73	0.65	0.65	0.65	0.73	0.65
190.0	1.30	1.13	0.81	0.73	0.65	0.57	0.57	0.57	0.65
200.0	1.22	1.05	0.81	0.65	0.49	0.57	0.57	0.73	0.57
210.0	1.22	0.97	0.73	0.65	0.57	0.57	0.65	0.57	0.57
220.0	1.13	0.81	0.65	0.57	0.57	0.65	0.57	0.57	0.57
230.0	1.13	0.81	0.57	0.57	0.49	0.57	0.49	0.57	0.57
240.0	0.97	0.73	0.57	0.65	0.57	0.57	0.65	0.57	0.57
250.0	0.89	0.65	0.49	0.41	0.57	0.57	0.49	0.65	0.65
260.0	0.73	0.57	0.49	0.49	0.57	0.65	0.49	0.57	0.65
270.0	0.65	0.41	0.49	0.49	0.49	0.65	0.57	0.65	0.57
280.0	0.73	0.65	0.65	0.57	0.57	0.57	0.65	0.65	0.65
290.0	0.73	0.57	0.65	0.57	0.57	0.57	0.57	0.65	0.57
300.0	0.89	0.73	0.65	0.65	0.57	0.57	0.57	0.65	0.57
310.0	0.97	0.73	0.65	0.73	0.57	0.57	0.57	0.57	0.65
320.0	0.89	0.73	0.81	0.65	0.73	0.65	0.57	0.65	0.57
330.0	1.05	0.81	0.65	0.65	0.57	0.65	0.57	0.57	0.65
340.0	0.97	0.65	0.65	0.73	0.49	0.57	0.57	0.57	0.73
350.0	0.89	0.81	0.73	0.73	0.65	0.57	0.65	0.73	0.65
360.0	0.89	0.81	0.81	0.73	0.65	0.73	0.65	0.65	0.57

Equipment: HW-1015
Temperature(°C): 25.5

Date: 2015/3/17
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 9.00

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	0.57	0.65	0.65	0.65	0.57	0.73	0.65	0.73	0.81
10.0	0.73	0.65	0.65	0.73	0.73	0.73	0.73	0.73	0.65
20.0	0.65	0.65	0.73	0.65	0.65	0.65	0.73	0.73	0.65
30.0	0.65	0.65	0.65	0.73	0.73	0.73	0.65	0.65	0.73
40.0	0.65	0.65	0.65	0.57	0.65	0.65	0.73	0.65	0.57
50.0	0.65	0.73	0.73	0.73	0.65	0.73	0.65	0.73	0.73
60.0	0.57	0.73	0.65	0.73	0.65	0.73	0.73	0.73	0.81
70.0	0.65	0.73	0.73	0.73	0.57	0.73	0.65	0.73	0.65
80.0	0.73	0.49	0.73	0.57	0.73	0.73	0.65	0.65	0.73
90.0	0.65	0.65	0.65	0.73	0.65	0.65	0.65	0.73	0.73
100.0	0.65	0.73	0.57	0.73	0.65	0.65	0.73	0.73	0.73
110.0	0.65	0.65	0.65	0.65	0.57	0.73	0.65	0.73	0.73
120.0	0.65	0.65	0.65	0.73	0.65	0.65	0.73	0.73	0.73
130.0	0.65	0.65	0.57	0.65	0.65	0.73	0.73	0.65	0.73
140.0	0.57	0.49	0.65	0.65	0.73	0.57	0.65	0.65	0.73
150.0	0.65	0.65	0.65	0.73	0.57	0.73	0.73	0.73	0.81
160.0	0.65	0.57	0.73	0.65	0.73	0.65	0.65	0.65	0.65
170.0	0.57	0.65	0.57	0.65	0.65	0.73	0.65	0.73	0.73
180.0	0.65	0.73	0.65	0.73	0.81	0.73	0.73	0.65	0.73
190.0	0.65	0.65	0.57	0.65	0.57	0.65	0.73	0.65	0.57
200.0	0.65	0.57	0.65	0.57	0.65	0.65	0.65	0.57	0.57
210.0	0.65	0.57	0.57	0.57	0.65	0.57	0.65	0.73	0.65
220.0	0.57	0.57	0.73	0.57	0.65	0.57	0.57	0.57	0.57
230.0	0.57	0.57	0.57	0.73	0.65	0.65	0.65	0.65	0.73
240.0	0.49	0.49	0.73	0.65	0.57	0.73	0.65	0.65	0.73
250.0	0.73	0.57	0.57	0.73	0.65	0.57	0.73	0.65	0.73
260.0	0.49	0.57	0.57	0.57	0.73	0.57	0.65	0.73	0.65
270.0	0.65	0.57	0.57	0.73	0.65	0.65	0.65	0.57	0.65
280.0	0.73	0.57	0.57	0.57	0.57	0.65	0.57	0.57	0.65
290.0	0.65	0.57	0.49	0.57	0.57	0.73	0.65	0.73	0.73
300.0	0.65	0.57	0.49	0.57	0.65	0.73	0.65	0.65	0.73
310.0	0.57	0.57	0.57	0.65	0.57	0.73	0.65	0.57	0.73
320.0	0.57	0.57	0.57	0.57	0.73	0.57	0.57	0.57	0.65
330.0	0.65	0.57	0.57	0.73	0.57	0.65	0.65	0.73	0.49
340.0	0.57	0.57	0.65	0.57	0.57	0.73	0.65	0.57	0.65
350.0	0.57	0.57	0.65	0.65	0.65	0.57	0.57	0.73	0.73
360.0	0.57	0.65	0.65	0.65	0.57	0.73	0.65	0.73	0.81

Equipment: HW-1015
Temperature(°C): 25.5

Date: 2015/3/17
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 9.00

Intensity data(cd)

C/γ(°)	180.0
0.0	0.73
10.0	0.65
20.0	0.65
30.0	0.73
40.0	0.65
50.0	0.73
60.0	0.57
70.0	0.73
80.0	0.73
90.0	0.65
100.0	0.57
110.0	0.73
120.0	0.73
130.0	0.73
140.0	0.73
150.0	0.65
160.0	0.73
170.0	0.57
180.0	0.73
190.0	0.65
200.0	0.65
210.0	0.73
220.0	0.65
230.0	0.73
240.0	0.57
250.0	0.73
260.0	0.73
270.0	0.65
280.0	0.57
290.0	0.73
300.0	0.73
310.0	0.73
320.0	0.73
330.0	0.65
340.0	0.73
350.0	0.57
360.0	0.73





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1. Luminaire Specification :

- (1) Input Voltage/Frequency : 240.00 Vac / 50 Hz
- (2) Input Watt : 14.59 W
- (3) Input Current : 0.070 A
- (4) Total Luminous Flux Output : 1277.65 lm
- (5) Luminaire Efficacy : 87.57 lm/W
- (6) Central Intensity (cd) : 444.20 cd
- (7) Maximum Intensity(cd) : 444.93 cd
- (8) PF : 0.871
- (9) Beam angle: (C0-C180) : 110.0°, (C90-C270) : 113.9°

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 ± 20 %



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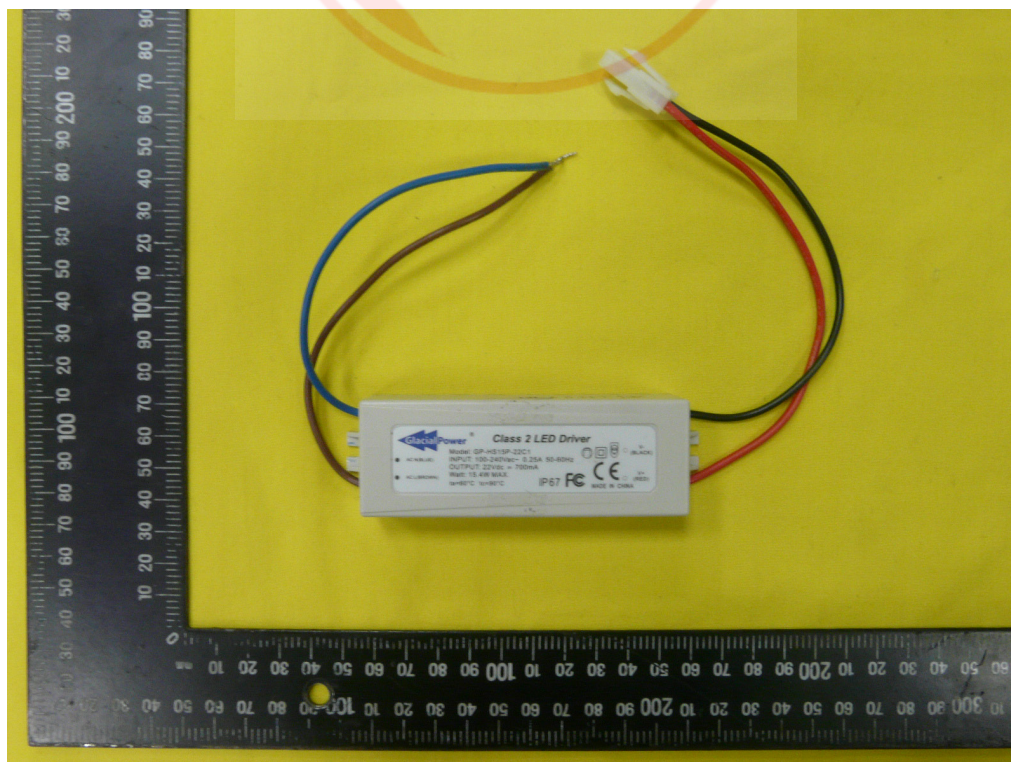
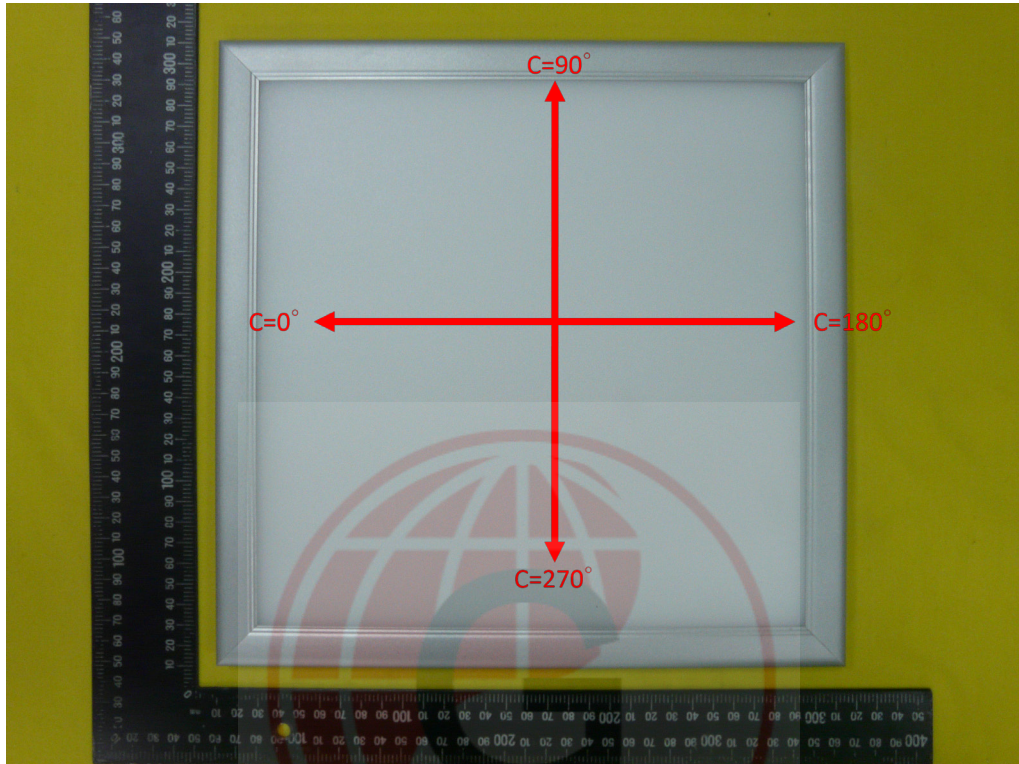
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3. Photograph of EUT :

Complete Sample Angle Definition





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4. Equipments List:

Equipment 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	
L222	Power Meter	2014/10/10	2015/10/09	V : Auto (0~300Vac) A : Auto (0~20A)
L204	Goniophotometer Photo Detector	N/A	N/A	
L205	Goniophotometer System	N/A	N/A	
L206	AC Power Source	N/A	N/A	AC 0~150VAC4.2A AC0~300VAC2.1A
L207	Power Meter	2014/12/12	2015/12/11	V : Auto (0~600Vac) A : Auto (0~20A)
L221	Luminous Intensity Lamp	2013/11/13	2023/11/12	
L242	DC Standard Light	2014/10/14	2024/10/13	