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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 : GO1502130203E

Product Name..... : LED Panel Light

Model No : GL-PL0312-V2-CW

Sample No..... : 15021302-5

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 : April 15, 2015

Issue Date..... : April 20, 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-PL0312-V2-CW
Manufacturer: GlacialTech Inc.
Sample No.: 15021302-5
Tested By: Alex Sung

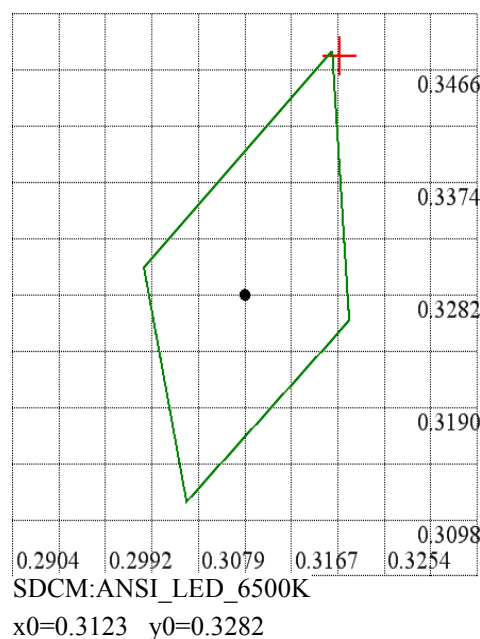
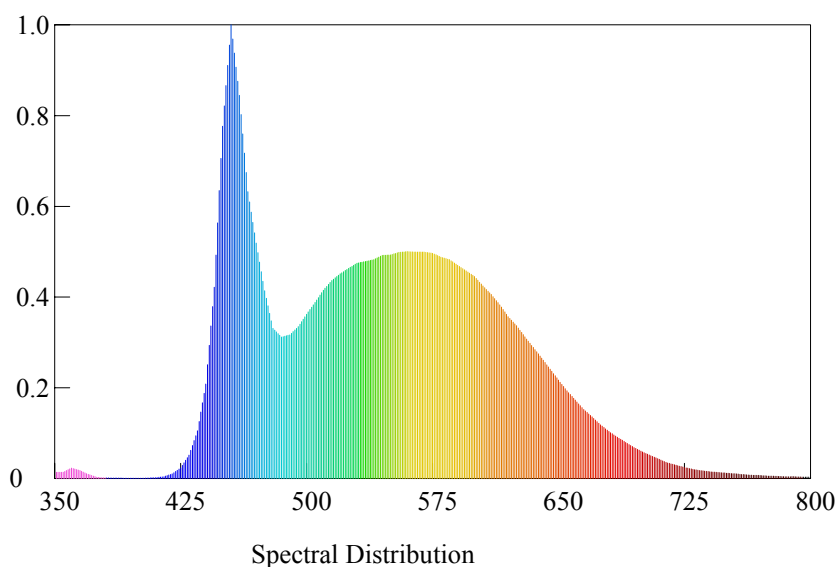
Date: 4-15-2015
Reviewed By: Donald Chang

Test Condition

Temperature: 25.1°C
Spectrum Range: 350-800 nm

RH: 61.4%
Scan Step: 5 nm

Spectroradiometric Parameters



Chromaticity Coordinates: $x=0.3212$ $y=0.3477$ $u'=0.1967$ $v'=0.4792$

Correlated Color Temperature: 5994 K

Dominant Wavelength: 508.0 nm(E)

Chromaticity Difference: +0.00849Duv

Purity: 0.0375

Color Ratio: $K_r=30.5\%$ $K_g=56.1\%$ $K_b=13.4\%$

Peak Wavelength: 455.4 nm

Bandwidth: 24.9nm

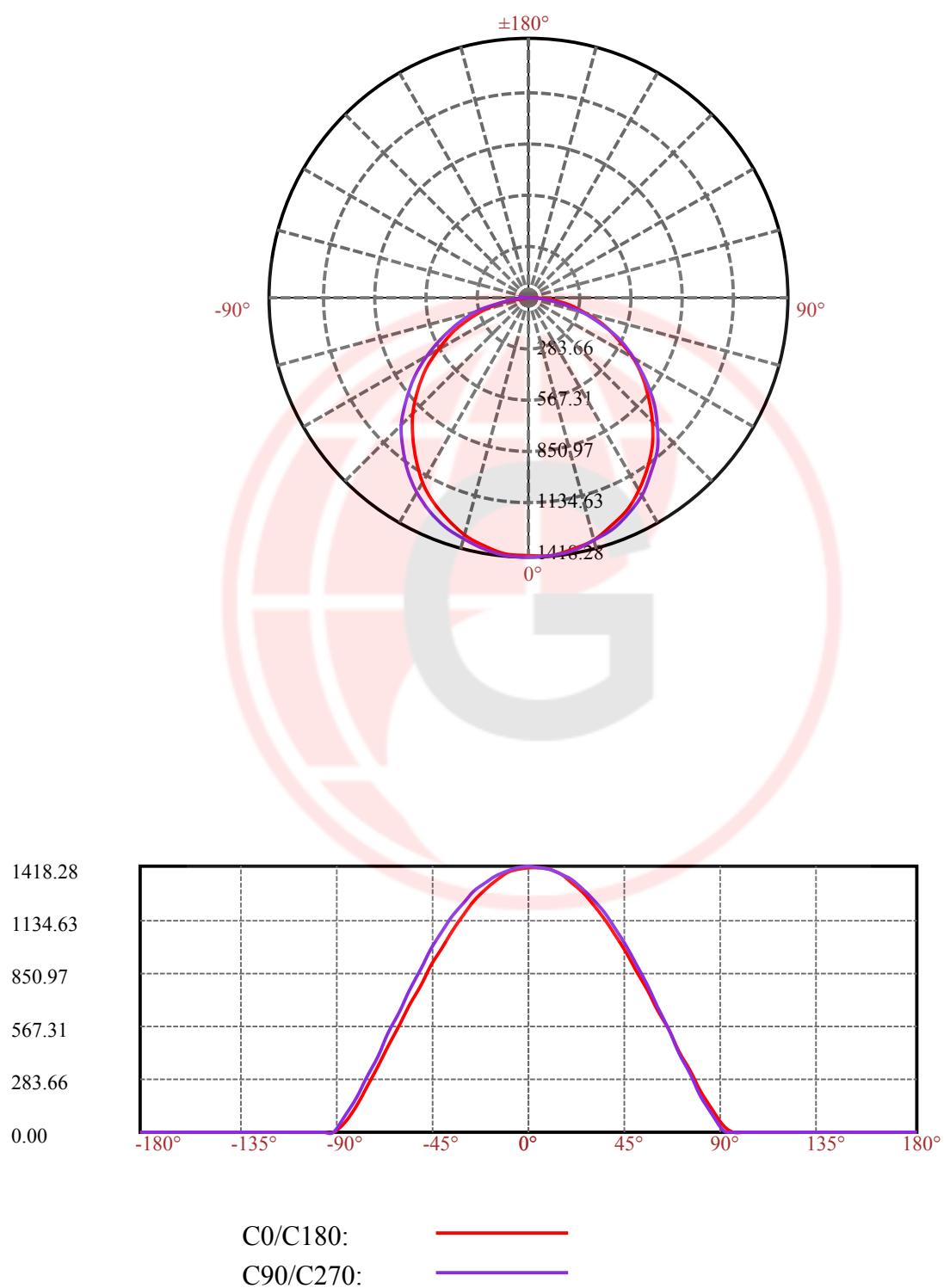
Color Tolerance: 0.0 SDCM

Rendering Index: $R_a=83.4$

Radiant Flux: 11.036 W

R1=81 R2=92 R3=95 R4=78 R5=81 R6=87 R7=86 R8=68
R9=9 R10=79 R11=77 R12=56 R13=86 R14=97 R15=76

Light Distribution Curve [Unit: cd]

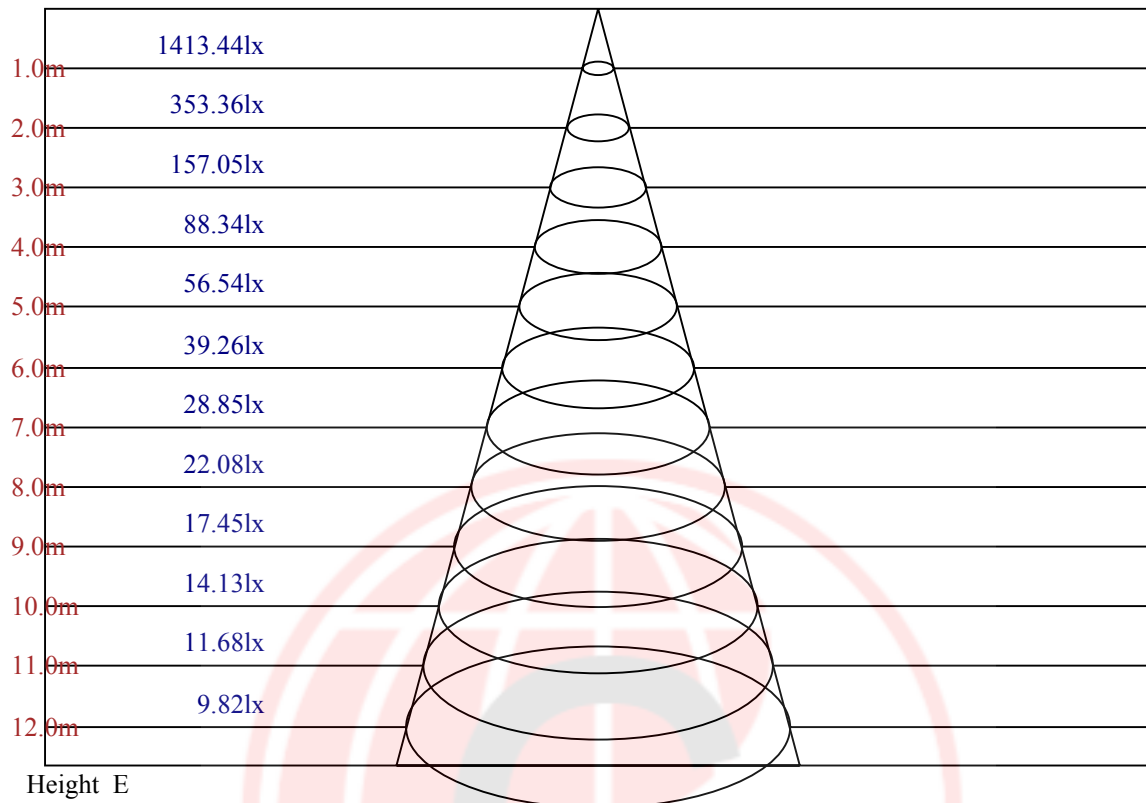


Equipment: HW-1015
Temperature(°C): 25.5

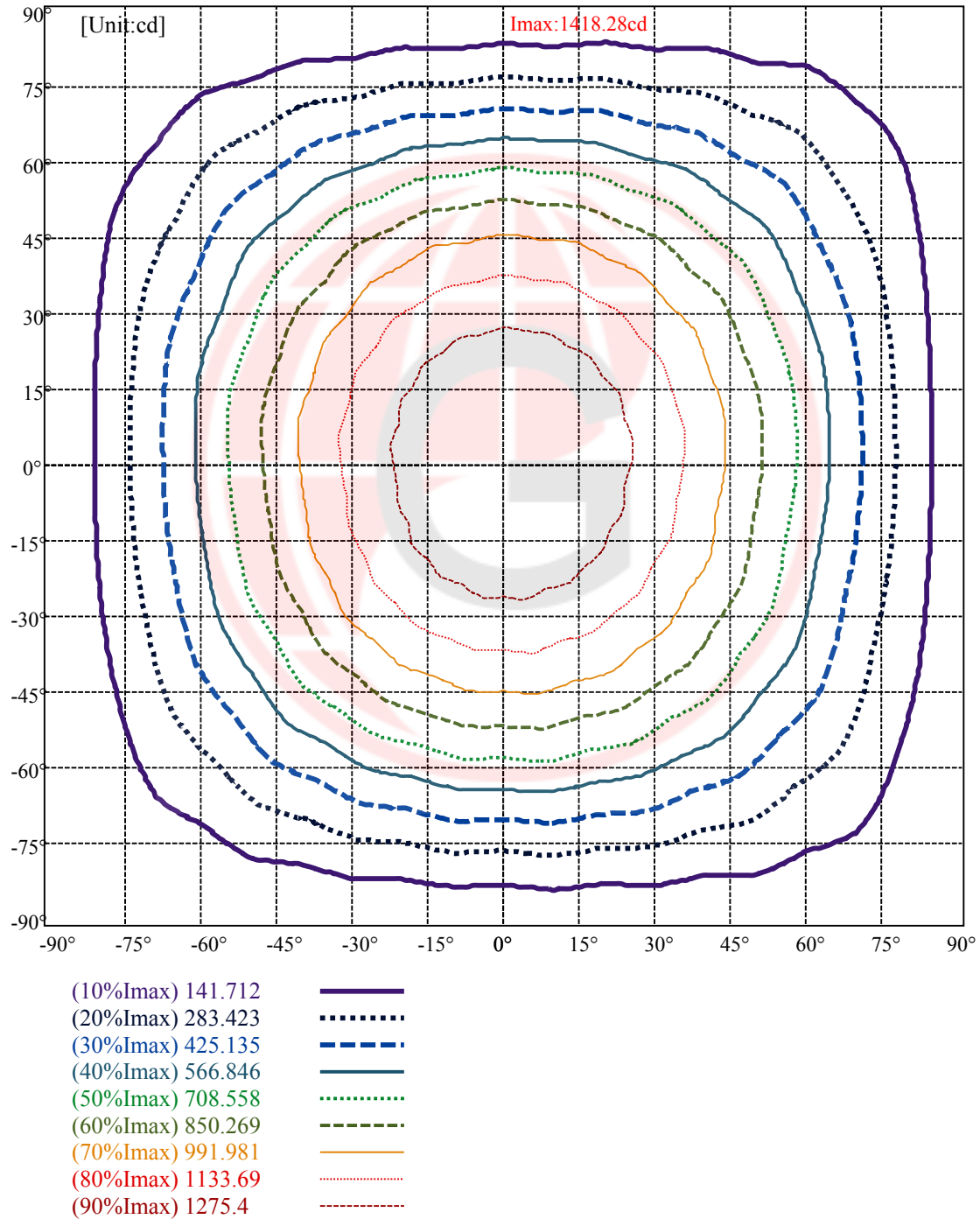
Date: 2015/4/15
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 12.60

Lux distance Curve



ISO-Intensity(V-H)

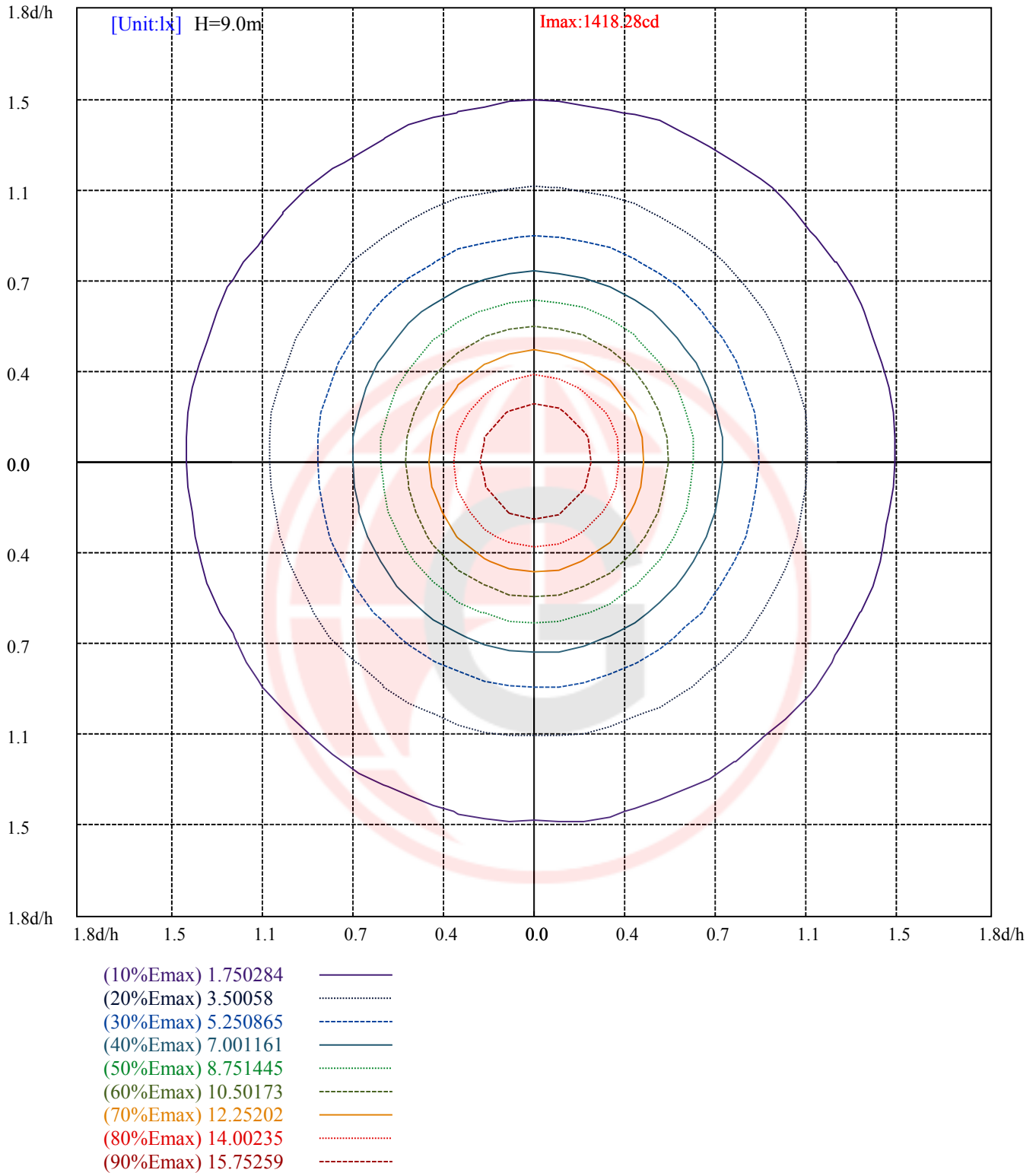


Equipment: HW-1015
Temperature(°C): 25.5

Date: 2015/4/15
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 12.60

ISO illuminance diagram



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

Date: 2015/4/15
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 12.60

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	1413.44	1411.56	1396.41	1370.31	1327.97	1275.63	1212.19	1137.81	1054.53
10.0	1416.41	1415.94	1402.50	1376.56	1337.66	1286.56	1224.69	1151.25	1068.44
20.0	1417.50	1415.47	1399.84	1374.22	1334.53	1280.16	1216.41	1146.25	1058.13
30.0	1416.72	1416.41	1403.91	1379.06	1342.50	1293.13	1232.81	1160.47	1078.91
40.0	1417.97	1414.84	1399.84	1372.97	1334.53	1283.75	1221.72	1147.97	1064.22
50.0	1417.50	1416.25	1403.59	1380.00	1344.53	1297.34	1238.59	1167.50	1086.09
60.0	1418.28	1414.69	1401.41	1376.56	1338.44	1289.84	1233.28	1157.19	1073.59
70.0	1417.50	1415.16	1402.97	1379.84	1346.41	1301.41	1243.91	1174.22	1092.97
80.0	1417.81	1413.44	1399.38	1375.47	1338.28	1293.75	1234.69	1163.28	1075.31
90.0	1416.88	1413.75	1400.94	1377.97	1344.06	1298.59	1241.09	1171.56	1089.38
100.0	1416.25	1410.78	1395.78	1370.78	1334.06	1285.78	1225.47	1152.97	1068.44
110.0	1415.94	1412.03	1398.28	1372.50	1338.91	1291.72	1229.22	1156.72	1073.59
120.0	1415.63	1409.22	1392.19	1364.06	1322.34	1273.75	1210.00	1135.16	1044.06
130.0	1415.31	1409.69	1393.59	1365.78	1326.41	1275.16	1212.03	1137.34	1051.88
140.0	1414.84	1406.09	1386.09	1356.09	1310.31	1254.38	1187.03	1108.59	1020.31
150.0	1414.69	1407.66	1388.75	1357.03	1313.59	1258.13	1191.41	1113.59	1026.25
160.0	1414.22	1404.53	1382.03	1347.34	1297.03	1241.09	1170.78	1090.78	996.09
170.0	1414.53	1406.25	1384.84	1350.78	1304.38	1246.25	1176.72	1097.34	1008.91
180.0	1413.44	1402.19	1379.69	1343.28	1291.88	1230.78	1163.44	1077.81	987.81
190.0	1416.41	1403.91	1376.88	1340.78	1290.78	1225.94	1152.97	1075.78	980.00
200.0	1417.50	1406.41	1382.97	1347.19	1299.22	1240.16	1169.69	1089.53	1000.47
210.0	1416.72	1404.22	1381.41	1345.63	1294.69	1235.00	1167.97	1082.97	992.50
220.0	1417.97	1410.00	1390.47	1356.72	1313.13	1261.41	1191.09	1113.75	1026.56
230.0	1417.50	1408.75	1386.72	1356.88	1313.59	1255.47	1188.91	1115.63	1023.44
240.0	1418.28	1411.41	1394.53	1366.25	1326.72	1275.94	1213.28	1139.69	1054.69
250.0	1417.50	1409.06	1392.03	1364.22	1322.81	1271.56	1212.81	1138.91	1048.75
260.0	1417.81	1411.88	1397.03	1371.72	1335.94	1289.06	1230.00	1158.91	1077.03
270.0	1416.88	1410.78	1394.69	1368.91	1332.66	1285.00	1225.47	1153.59	1070.63
280.0	1416.25	1412.03	1398.44	1374.53	1340.31	1294.69	1233.91	1168.28	1087.81
290.0	1415.94	1409.84	1393.91	1367.66	1330.63	1282.19	1222.03	1150.31	1067.50
300.0	1415.63	1411.56	1397.50	1372.81	1336.88	1290.00	1231.72	1161.25	1080.31
310.0	1415.31	1409.53	1393.44	1366.09	1324.69	1277.19	1215.47	1142.50	1054.38
320.0	1414.84	1410.94	1396.09	1369.38	1330.78	1281.09	1220.16	1147.97	1065.94
330.0	1414.69	1408.91	1392.66	1363.44	1320.16	1266.88	1206.41	1127.34	1043.13
340.0	1414.22	1411.56	1396.41	1368.75	1328.91	1277.50	1214.84	1141.25	1058.44
350.0	1414.53	1410.16	1391.88	1363.13	1321.25	1263.91	1198.44	1127.03	1037.50
360.0	1413.44	1411.56	1396.41	1370.31	1327.97	1275.63	1212.19	1137.81	1054.53

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	963.13	865.16	761.56	653.59	543.13	431.25	322.19	217.03	120.78
10.0	976.88	878.44	774.22	665.63	553.59	440.94	329.38	222.81	124.84
20.0	965.47	865.94	765.94	650.63	537.50	424.22	311.88	205.16	108.75
30.0	987.50	888.59	783.44	672.97	560.00	445.31	332.19	218.13	124.69
40.0	970.78	869.53	762.19	649.69	534.84	419.06	305.00	197.19	95.31
50.0	994.06	893.44	786.25	673.44	557.66	440.16	318.44	214.53	114.53
60.0	979.69	883.44	767.97	653.44	535.31	416.88	300.16	190.78	92.34
70.0	1001.09	900.00	790.94	676.09	557.97	438.13	320.47	202.97	107.66
80.0	986.56	883.59	767.03	650.63	537.50	410.78	292.66	182.19	83.75
90.0	997.03	894.69	785.16	669.22	543.28	423.13	311.09	193.44	93.28
100.0	973.44	869.69	758.59	642.03	522.66	395.47	278.28	174.69	72.66
110.0	985.00	876.88	766.72	651.09	532.81	413.13	296.72	186.88	88.44
120.0	953.28	849.22	732.50	617.03	505.47	381.09	265.94	159.84	66.41
130.0	957.19	854.06	745.16	631.41	508.59	398.13	284.53	172.34	78.13
140.0	923.28	819.22	709.84	596.41	480.94	366.09	254.53	152.03	61.72
150.0	930.63	828.28	720.00	608.59	494.38	380.63	270.31	161.88	75.78
160.0	904.38	801.25	687.19	575.78	469.06	350.78	242.19	142.81	55.00
170.0	912.97	811.25	704.22	594.38	482.34	370.94	256.72	161.72	71.88
180.0	890.78	788.13	680.94	571.09	459.22	348.44	241.25	142.50	55.16
190.0	883.28	780.16	673.13	563.44	452.34	342.34	236.41	138.91	52.19
200.0	904.22	801.72	695.16	585.00	473.75	362.66	250.16	156.09	67.19
210.0	895.31	797.19	683.28	572.34	459.53	347.50	240.00	140.94	53.28
220.0	936.41	828.44	720.78	609.38	495.78	382.34	273.28	170.16	77.97
230.0	926.88	823.44	720.31	601.09	485.78	371.25	260.63	157.81	66.09
240.0	960.62	858.59	750.00	636.88	520.63	404.69	292.19	179.69	88.91
250.0	953.91	856.25	740.62	625.78	508.44	391.25	277.66	171.25	75.63
260.0	984.69	883.13	774.69	659.84	536.09	424.53	309.53	193.91	95.31
270.0	977.66	875.47	759.38	644.53	532.81	407.50	292.34	183.75	85.63
280.0	996.41	890.31	788.28	674.38	550.00	431.88	322.97	206.41	105.94
290.0	974.06	872.50	763.91	649.53	532.66	414.53	299.69	191.41	88.28
300.0	989.22	889.53	782.81	670.16	548.13	437.50	323.28	207.81	109.06
310.0	966.56	865.94	752.97	640.47	532.03	409.69	296.88	190.47	94.69
320.0	974.53	875.63	770.16	659.69	545.94	432.34	319.84	212.66	115.16
330.0	950.16	855.63	744.22	633.91	521.72	408.13	297.66	192.50	98.44
340.0	967.03	869.06	765.00	656.41	545.16	433.13	322.97	211.56	115.31
350.0	945.16	845.31	740.62	632.19	520.94	409.38	299.84	196.09	102.03
360.0	963.13	865.16	761.56	653.59	543.13	431.25	322.19	217.03	120.78

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	36.25	1.41	1.25	1.25	1.25	1.56	1.41	1.56	1.56
10.0	38.75	1.09	1.25	1.41	1.56	1.56	1.56	1.72	1.72
20.0	25.16	1.25	1.41	1.41	1.56	1.56	1.41	1.56	1.56
30.0	37.81	1.41	1.41	1.41	1.56	1.72	1.56	1.56	1.72
40.0	17.03	1.41	1.41	1.56	1.56	1.56	1.41	1.41	1.72
50.0	27.81	1.56	1.56	1.56	1.72	1.41	1.56	1.56	1.72
60.0	9.69	1.41	1.41	1.56	1.56	1.72	1.41	1.72	1.72
70.0	20.94	1.72	1.56	1.56	1.41	1.56	1.88	1.41	1.72
80.0	3.44	1.56	1.41	1.72	1.56	1.72	1.56	1.88	1.72
90.0	8.75	1.56	1.72	1.56	1.41	1.56	1.72	1.88	1.72
100.0	2.66	1.56	1.56	1.41	1.72	1.56	1.72	1.56	1.72
110.0	7.50	1.56	1.41	1.72	1.41	1.72	1.72	1.56	1.56
120.0	2.81	1.56	1.56	1.72	1.41	1.88	1.56	1.72	1.88
130.0	4.69	1.41	1.56	1.41	1.72	1.56	1.72	1.56	1.56
140.0	2.50	1.41	1.56	1.41	1.56	1.56	1.72	1.41	1.72
150.0	5.00	1.56	1.56	1.56	1.56	1.72	1.56	1.72	1.72
160.0	1.56	1.41	1.56	1.56	1.41	1.56	1.56	1.72	1.56
170.0	3.13	1.09	1.41	1.56	1.72	1.56	1.72	1.56	1.56
180.0	1.41	1.25	1.09	1.56	1.56	1.88	1.41	2.03	1.56
190.0	1.56	1.25	1.41	1.41	1.41	1.56	1.56	1.56	1.56
200.0	2.50	1.25	1.41	1.25	1.72	1.41	1.56	1.56	1.72
210.0	1.56	1.25	1.25	1.25	1.56	1.41	1.56	1.72	1.56
220.0	4.69	1.56	1.56	1.25	1.41	1.56	1.41	1.72	1.72
230.0	2.81	1.72	1.25	1.41	1.25	1.72	1.56	1.56	1.72
240.0	8.44	1.41	1.56	1.56	1.41	1.25	1.41	1.56	1.41
250.0	2.97	1.41	1.41	1.41	1.25	1.56	1.56	1.56	1.56
260.0	14.38	1.56	1.41	1.41	1.41	1.41	1.56	1.56	1.56
270.0	3.59	1.41	1.41	1.25	1.56	1.41	1.41	1.41	1.88
280.0	19.22	1.56	1.41	1.56	1.41	1.56	1.72	1.41	1.56
290.0	6.56	1.56	1.41	1.41	1.41	1.41	1.72	1.56	1.72
300.0	27.66	1.72	1.41	1.41	1.41	1.41	1.41	1.88	1.41
310.0	13.13	1.25	1.25	1.41	1.41	1.41	1.72	1.41	1.56
320.0	30.16	1.41	1.41	1.56	1.25	1.41	1.41	1.56	1.72
330.0	17.34	1.41	1.41	1.25	1.41	1.56	1.56	1.72	1.72
340.0	35.94	1.25	1.41	1.41	1.25	1.41	1.72	1.41	1.88
350.0	21.09	1.25	1.25	1.41	1.41	1.41	1.56	1.41	1.72
360.0	36.25	1.41	1.25	1.25	1.25	1.56	1.41	1.56	1.56

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

Date: 2015/4/15
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 12.60

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	1.41	1.88	1.72	1.72	1.88	1.88	1.72	1.88
10.0	1.72	1.56	1.72	1.56	1.72	1.72	1.72	1.88	1.88
20.0	1.56	1.88	1.72	1.56	1.72	1.41	2.03	1.88	2.03
30.0	1.56	1.56	1.72	1.88	1.88	1.72	1.88	1.88	1.72
40.0	1.72	1.72	1.56	1.72	2.03	1.88	1.88	1.88	2.03
50.0	2.03	1.72	1.72	1.56	1.72	1.88	1.72	2.03	2.03
60.0	1.72	2.03	1.72	1.72	1.72	1.72	1.72	1.88	2.03
70.0	1.72	1.72	1.88	1.88	1.88	2.03	1.72	1.88	2.03
80.0	1.72	1.72	1.56	1.72	1.88	1.88	1.88	1.88	1.88
90.0	1.72	1.56	1.72	2.03	1.72	1.72	1.88	1.88	2.19
100.0	1.56	1.72	1.88	1.88	2.03	1.72	1.56	2.19	1.88
110.0	1.56	1.88	1.88	1.72	1.72	1.88	1.88	1.88	1.72
120.0	1.72	1.72	1.88	1.72	1.56	1.88	1.72	2.03	2.03
130.0	1.41	1.72	1.88	1.88	1.56	1.88	1.72	2.03	1.72
140.0	1.72	1.56	1.72	1.72	2.03	1.88	1.56	1.88	2.03
150.0	1.88	1.72	1.72	2.03	1.72	2.03	1.72	2.03	1.72
160.0	1.72	1.72	1.72	1.88	1.88	1.72	1.88	1.88	2.03
170.0	1.72	1.88	1.88	1.72	1.72	1.88	1.88	1.88	1.88
180.0	1.72	1.72	1.88	1.72	1.88	1.88	1.72	1.72	1.88
190.0	1.56	1.88	1.88	1.56	1.88	2.03	1.88	1.72	1.72
200.0	1.88	1.72	1.72	1.72	1.72	1.88	1.88	1.72	1.88
210.0	1.72	1.56	1.72	1.72	1.88	1.88	1.88	1.88	1.88
220.0	1.72	1.72	1.72	1.72	1.88	1.72	1.88	2.03	1.88
230.0	1.56	1.56	1.88	1.88	1.56	1.88	1.88	1.88	2.03
240.0	1.72	1.72	1.72	1.72	1.72	1.72	1.88	1.72	1.72
250.0	1.56	1.72	1.56	1.56	2.19	1.72	1.88	1.88	2.03
260.0	1.72	1.72	1.56	1.72	1.72	1.88	1.88	2.03	2.03
270.0	1.56	1.88	1.72	1.72	1.72	1.72	1.88	1.88	1.72
280.0	1.72	1.72	1.72	1.72	1.72	1.88	1.88	1.88	2.03
290.0	1.56	1.72	1.88	1.88	1.88	1.72	1.88	2.19	1.88
300.0	1.56	1.72	1.72	1.88	1.72	1.88	1.72	2.03	1.72
310.0	1.56	1.88	1.72	1.88	1.88	1.88	1.88	2.03	1.88
320.0	1.56	1.72	1.72	1.72	1.88	1.88	2.19	1.88	1.72
330.0	1.72	1.72	1.88	1.88	1.72	1.56	2.03	1.88	1.72
340.0	2.03	1.88	1.88	1.88	1.56	1.72	2.03	1.88	1.72
350.0	1.72	1.88	1.72	1.72	1.56	1.56	1.88	2.03	2.03
360.0	1.56	1.41	1.88	1.72	1.72	1.88	1.88	1.72	1.88

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

Date: 2015/4/15
Humidity(%): 60.0%

Operator: Alex Sung
Distance(m): 12.60

Intensity data(cd)

C/γ(°)	180.0
0.0	1.88
10.0	1.72
20.0	1.72
30.0	1.88
40.0	1.88
50.0	1.88
60.0	1.88
70.0	1.72
80.0	1.88
90.0	1.88
100.0	1.88
110.0	1.72
120.0	1.72
130.0	1.88
140.0	1.88
150.0	1.72
160.0	1.88
170.0	1.72
180.0	1.88
190.0	1.72
200.0	1.72
210.0	1.88
220.0	1.88
230.0	1.88
240.0	1.88
250.0	1.72
260.0	1.88
270.0	1.88
280.0	1.88
290.0	1.72
300.0	1.72
310.0	1.88
320.0	1.88
330.0	1.72
340.0	1.88
350.0	1.72
360.0	1.88





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

FAX : +886-2-2248-0811

1. Luminaire Specification :

- (1) Input Voltage/Frequency : 240.00 Vac / 50 Hz
- (2) Input Watt : 45.00 W
- (3) Input Current : 0.203 A
- (4) Total Luminous Flux Output : 4157.45 lm
- (5) Luminaire Efficacy : 92.39 lm/W
- (6) Central Intensity (cd) : 1413.437 cd
- (7) Maximum Intensity(cd) : 1418.281 cd
- (8) PF : 0.924
- (9) Beam angle: (C0-C180) : 113.3°, (C90-C270) : 115.5°

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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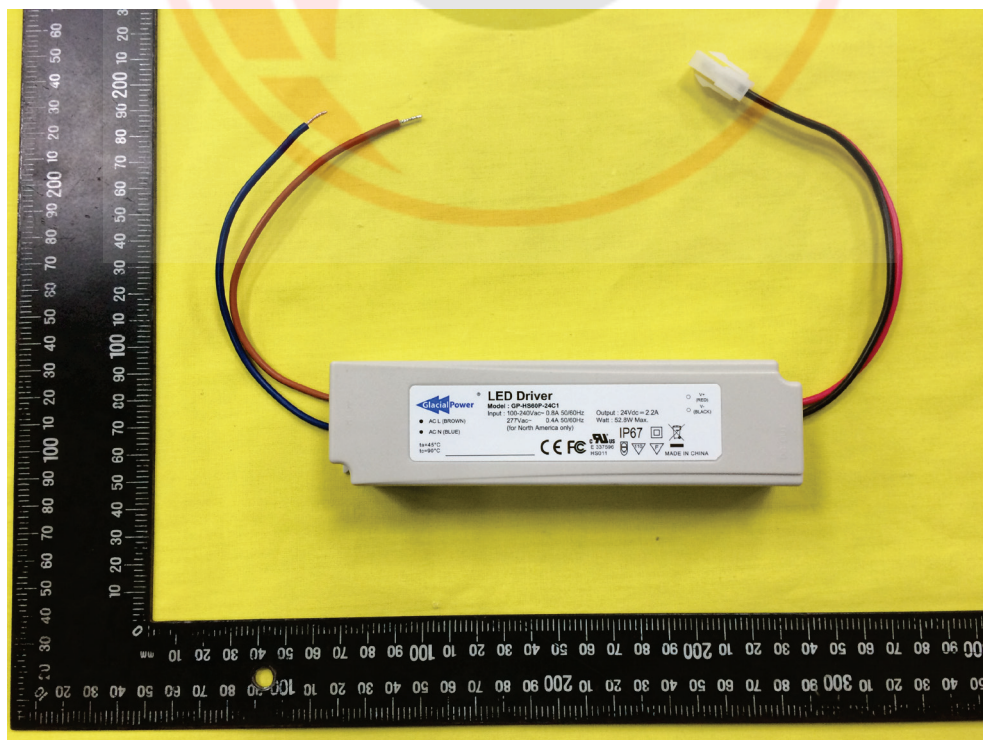
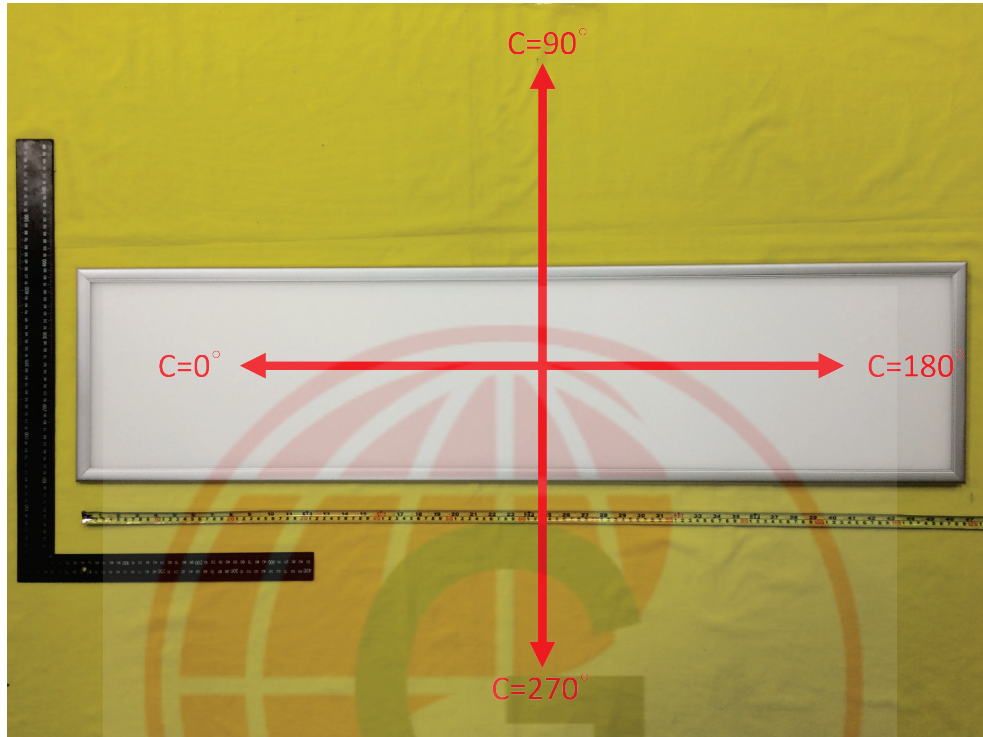
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3. Photograph of EUT :

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	