



廣益全球驗證有限公司

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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 : GO1011260103

Product Name : LED Module

Model No : KG70N1

Sample No : 10112601-3

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

Test Date: 2010-12-06

Issue Date: 2010-12-06

- 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

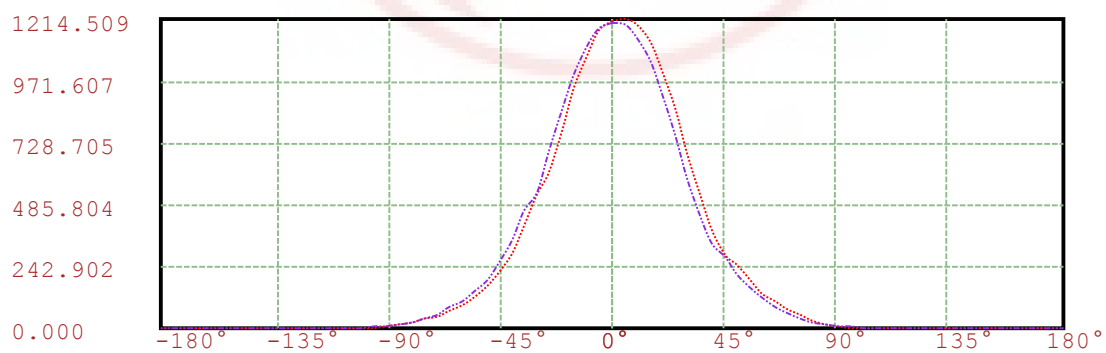
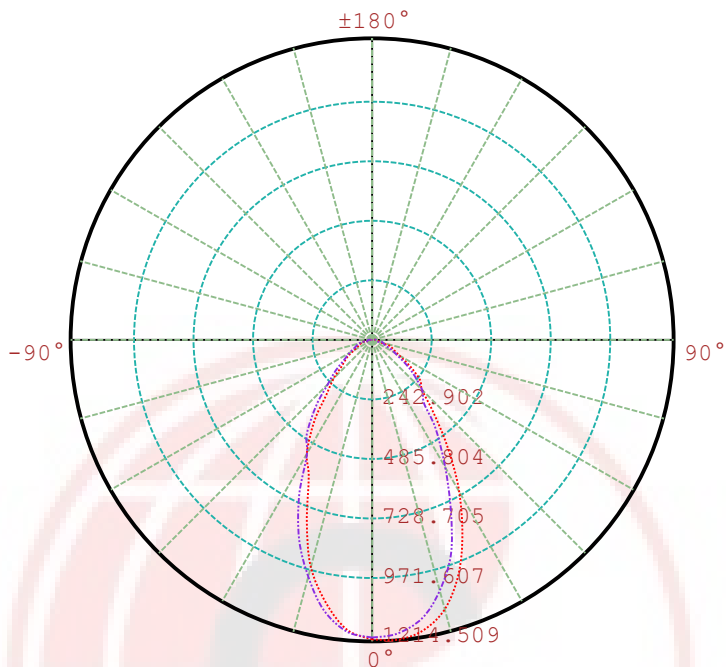
Roy Kao

Sean Kao

Project Engineer

Project Engineer

Light Distribution Curve [Unit: cd]



C0: (red dotted line)

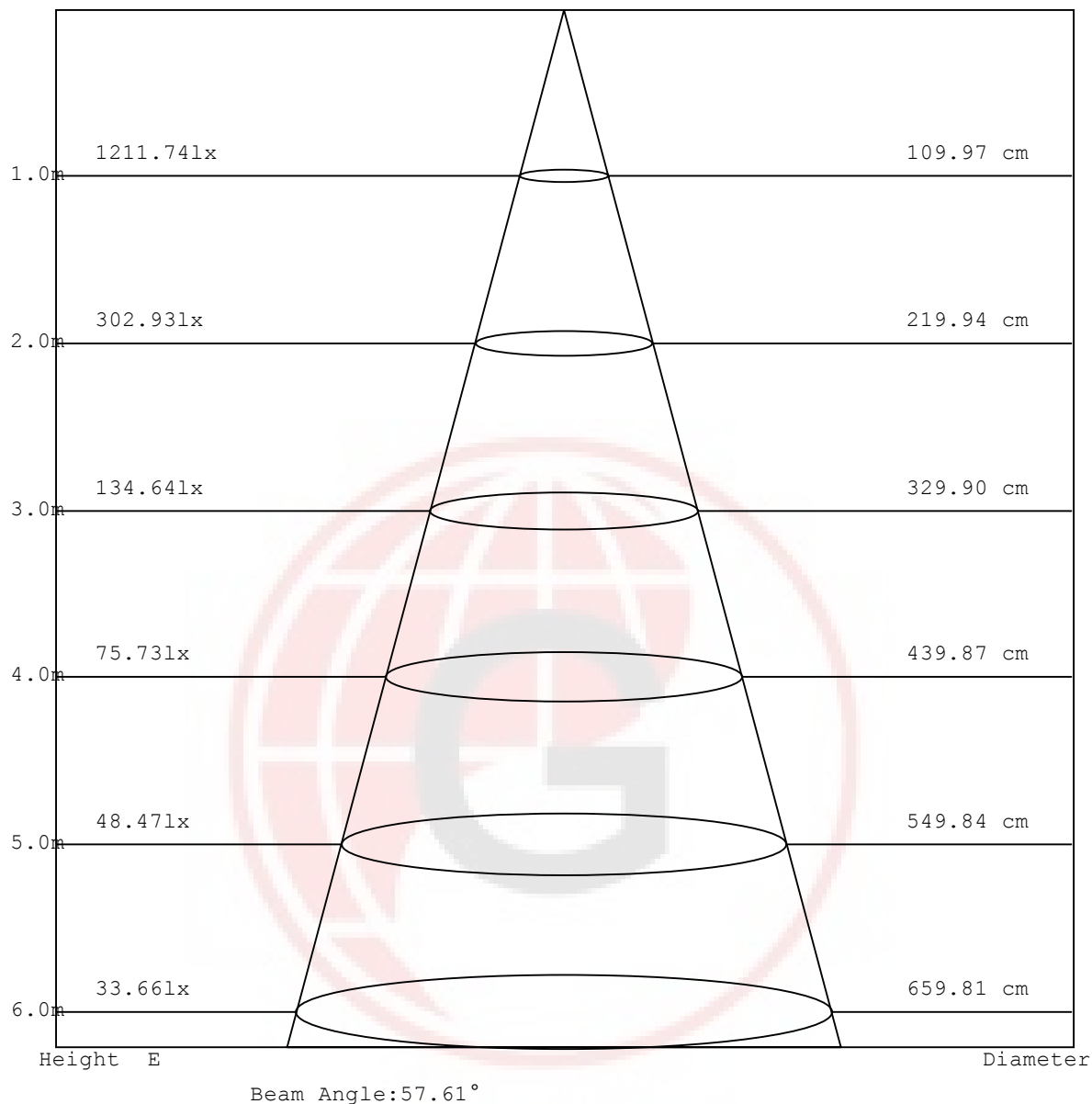
C90/C270: - - - - - (blue dashed line)

Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

Lux distance Curve

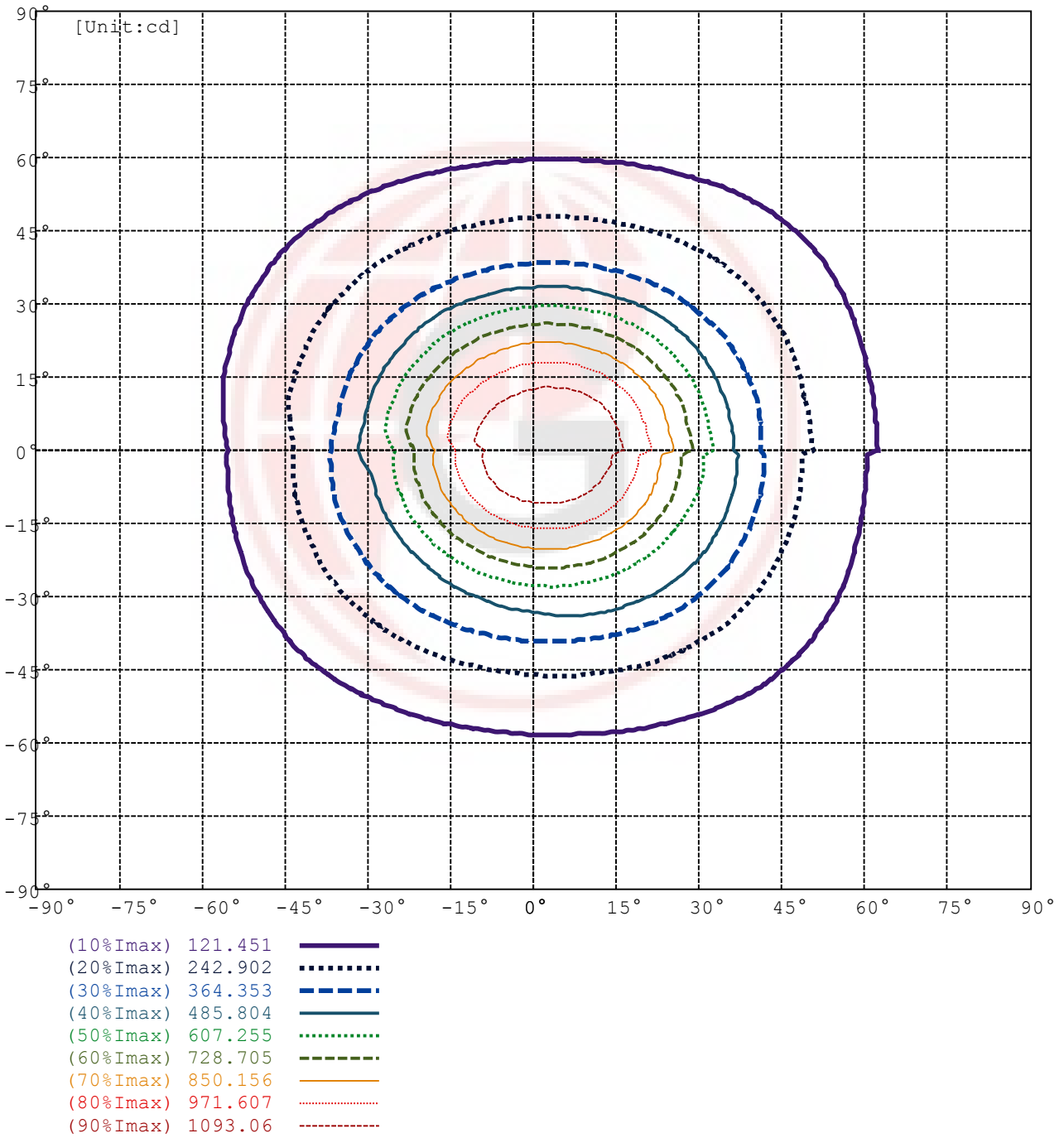


Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

ISO-Intensity (V-H)

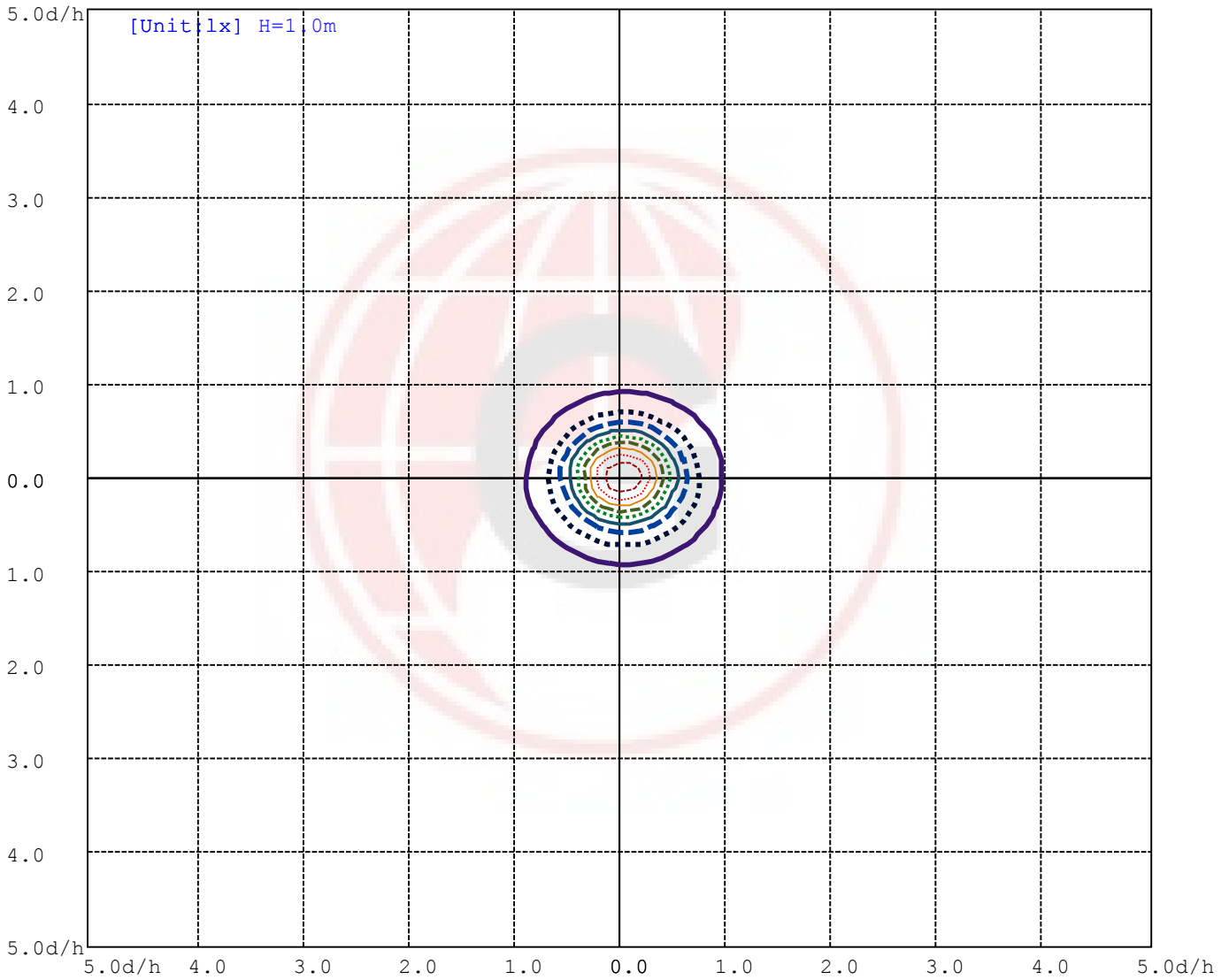


Equipment: GMS1800
Temperature (°C): 25.0

Date:
Humidity (%): 50.0%

Operator: Roy Kao
Distance (m): 13.6

ISO illuminance diagram



(10%Emax)	120.906	———
(20%Emax)	241.812
(30%Emax)	362.718	- - - - -
(40%Emax)	483.624	—————
(50%Emax)	604.53
(60%Emax)	725.436	- - - - -
(70%Emax)	846.342	—————
(80%Emax)	967.248
(90%Emax)	1088.15	- - - - -

Equipment: GMS1800
 Temperature (°C): 25.0

Date:
 Humidity (%): 50.0%

Operator: Roy Kao
 Distance (m): 13.6

Intensity data(cd)

c/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0
360.0	1209.2	1208.8	1167.4	1082.1	949.9	794.5	621.8	540.2	401.0	299.7
350.0	1208.4	1207.9	1164.3	1082.5	950.8	788.2	624.8	542.8	403.4	297.7
340.0	1207.5	1205.5	1161.7	1074.0	941.5	787.5	615.9	535.2	398.2	298.8
330.0	1206.8	1203.4	1154.7	1069.5	936.7	774.4	605.2	533.6	396.5	293.1
320.0	1205.8	1199.4	1150.4	1057.0	922.5	768.3	599.9	521.6	387.7	291.1
310.0	1203.6	1195.9	1140.3	1048.3	913.8	752.4	585.6	515.3	383.0	283.3
300.0	1203.8	1191.1	1134.0	1033.0	896.7	742.6	576.4	500.0	371.8	279.2
290.0	1202.3	1186.4	1123.3	1025.2	884.8	723.8	559.1	492.0	364.6	270.0
280.0	1202.0	1183.1	1116.4	1007.7	866.7	712.3	549.6	475.0	352.4	265.0
270.0	1202.1	1179.4	1108.5	995.7	857.3	693.7	532.1	459.5	345.7	256.5
260.0	1203.6	1177.6	1104.8	989.7	840.7	675.4	522.5	451.4	334.5	248.0
250.0	1205.1	1175.5	1097.6	978.7	834.2	667.1	507.3	437.3	328.7	243.6
240.0	1206.8	1174.4	1096.3	974.8	819.3	651.4	500.7	431.4	318.6	236.4
230.0	1208.6	1173.1	1092.1	964.3	814.7	645.5	487.9	420.4	314.9	233.6
220.0	1209.5	1173.3	1091.3	962.6	801.7	632.6	484.1	416.5	307.7	227.9
210.0	1210.3	1171.7	1086.2	955.0	801.5	631.1	475.0	408.9	306.4	226.1
200.0	1211.7	1172.4	1082.6	956.5	793.8	623.0	475.4	409.3	301.6	223.3
190.0	1209.5	1172.2	1085.2	952.8	796.4	625.7	470.2	403.7	302.7	223.8
180.0	1209.2	1170.7	1074.0	945.0	780.3	609.7	529.1	398.4	294.2	217.7
170.0	1208.4	1173.9	1111.6	995.7	840.7	679.3	516.2	382.1	282.6	246.7
160.0	1207.5	1175.0	1111.3	1001.7	849.0	679.1	516.4	388.4	286.8	246.7
150.0	1206.8	1174.6	1115.1	1002.5	849.2	689.1	525.8	389.7	292.0	251.0
140.0	1205.8	1175.0	1115.1	1010.2	861.0	692.8	529.5	398.7	294.0	252.7
130.0	1203.6	1176.3	1119.4	1012.6	865.8	706.2	542.1	402.3	301.0	258.6
120.0	1203.8	1178.3	1121.1	1022.8	879.3	713.6	556.1	412.4	305.1	262.3
110.0	1202.3	1180.0	1128.4	1027.1	886.1	730.6	561.8	417.9	313.8	269.6
100.0	1202.0	1184.4	1132.0	1038.9	901.6	739.3	579.2	431.2	318.8	274.1
90.0	1202.1	1188.7	1141.0	1046.1	919.0	757.6	588.6	438.4	328.7	282.8
80.0	1203.6	1193.6	1147.3	1060.1	927.9	767.7	606.1	452.5	334.7	287.7
70.0	1205.1	1197.7	1156.5	1067.9	945.6	786.0	615.0	460.1	345.2	296.2
60.0	1206.8	1202.9	1165.6	1081.7	954.7	795.3	632.7	474.6	350.4	300.7
50.0	1208.6	1207.1	1170.0	1089.1	970.2	812.6	640.3	488.3	361.1	309.5
40.0	1209.5	1210.1	1178.5	1100.7	977.9	820.2	655.5	493.5	365.3	313.2
30.0	1210.3	1211.9	1180.7	1107.2	991.4	833.5	660.4	505.3	373.8	320.8
20.0	1211.7	1213.0	1185.7	1114.0	992.9	845.3	671.7	506.8	375.1	326.7
10.0	1209.5	1213.8	1185.0	1114.2	1000.6	843.7	671.2	513.6	380.5	326.9
0.0	1209.0	1214.5	1189.0	1123.3	1008.0	861.6	689.1	522.7	387.5	289.8

Equipment: 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	222.0	164.7	123.6	91.1	64.6	42.8	26.8	19.6	9.4	4.2
350.0	223.3	165.7	123.6	90.3	65.4	44.1	26.2	19.0	10.0	4.2
340.0	220.7	164.0	123.9	91.2	64.6	42.8	26.6	19.9	10.2	4.2
330.0	217.4	163.8	122.1	89.6	64.5	43.2	26.2	19.2	9.8	4.6
320.0	215.9	160.7	121.7	89.0	63.3	42.1	25.7	19.6	10.2	4.2
310.0	210.5	159.6	118.4	87.4	62.6	41.4	25.5	19.0	10.0	4.4
300.0	207.6	155.7	115.6	86.2	61.1	40.1	24.7	18.7	10.2	4.4
290.0	201.7	153.1	114.1	83.7	60.0	39.3	23.6	17.9	10.2	4.8
280.0	197.6	148.3	110.6	82.0	57.4	38.0	23.5	17.5	9.6	4.6
270.0	191.5	145.5	109.0	79.8	55.8	37.1	22.7	17.2	9.2	4.6
260.0	187.8	141.1	105.1	77.9	55.0	36.2	22.3	16.8	8.7	4.1
250.0	181.7	138.9	103.8	75.5	53.2	35.6	21.2	16.3	8.5	3.9
240.0	179.1	134.3	100.7	75.0	52.5	34.4	20.9	16.3	8.3	3.9
230.0	174.3	131.1	99.7	72.6	51.5	34.4	20.5	15.5	8.1	3.7
220.0	172.7	130.0	97.0	72.4	51.3	33.4	19.9	15.5	7.6	3.3
210.0	169.2	127.3	96.6	71.3	50.4	33.6	19.9	15.1	7.8	3.9
200.0	169.5	126.5	95.5	70.0	50.2	33.4	19.6	14.2	7.8	3.7
190.0	167.1	125.6	95.1	70.2	50.1	33.4	20.1	14.6	7.0	3.5
180.0	164.6	123.6	92.7	67.8	48.9	40.1	24.9	13.5	7.0	3.0
170.0	183.0	137.4	103.1	77.4	56.0	37.9	23.5	13.1	9.4	4.2
160.0	183.2	139.4	104.7	77.2	56.7	38.4	23.3	12.9	9.4	4.2
150.0	186.5	139.6	106.4	78.7	56.5	37.9	24.0	13.3	9.6	4.2
140.0	190.4	142.2	106.6	78.9	57.1	38.6	23.3	12.7	9.4	3.9
130.0	192.6	143.7	109.0	80.9	54.5	32.7	19.4	10.9	8.1	1.8
120.0	197.4	147.6	110.4	75.9	47.8	34.5	22.2	12.4	6.6	1.5
110.0	200.2	150.0	111.7	75.4	46.7	37.1	22.9	11.8	7.8	4.8
100.0	206.9	154.4	113.6	77.8	53.0	36.2	22.7	13.1	9.8	5.0
90.0	210.0	157.0	118.4	85.3	58.0	39.2	24.2	13.5	9.6	4.8
80.0	216.5	161.6	120.0	89.4	63.9	42.5	25.3	14.6	10.7	5.0
70.0	219.4	163.6	123.0	90.9	64.8	44.1	26.4	14.4	10.2	5.0
60.0	225.9	168.1	124.5	92.9	66.9	44.9	26.2	14.6	10.5	5.0
50.0	228.6	172.5	127.6	93.8	67.4	46.2	28.1	15.3	10.5	5.2
40.0	234.2	173.8	129.1	96.4	68.9	47.1	28.8	16.4	11.8	5.4
30.0	236.2	178.0	132.2	97.0	69.4	48.4	29.9	16.6	11.8	5.2
20.0	241.4	178.2	132.2	99.4	71.3	48.2	30.8	17.2	12.2	5.2
10.0	241.2	181.0	134.1	99.2	71.3	49.5	30.5	16.8	12.0	5.5
0.0	249.0	184.9	137.2	102.5	73.9	51.2	32.7	18.1	8.5	3.7

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	2.0	1.3	1.3	0.9	0.9	0.9	0.9	0.9	1.1	1.1
350.0	1.3	0.9	0.9	0.7	0.9	0.7	0.7	0.9	1.1	1.3
340.0	0.9	1.1	0.9	0.9	0.9	0.7	0.9	0.9	1.1	1.5
330.0	2.0	0.9	1.3	1.1	1.1	1.5	1.3	1.3	1.1	1.1
320.0	1.7	0.7	0.7	0.9	0.9	0.9	1.1	1.3	1.3	1.3
310.0	1.8	1.1	1.1	1.3	1.3	1.1	1.1	0.9	0.9	0.9
300.0	1.8	0.7	1.1	0.9	0.9	1.1	1.1	1.1	1.1	1.3
290.0	2.0	1.1	0.9	0.9	0.9	0.9	0.9	0.9	1.1	0.9
280.0	2.0	0.9	0.9	1.3	1.3	1.3	1.5	1.1	0.9	0.9
270.0	2.2	1.3	1.3	1.3	1.1	1.3	1.5	1.5	1.5	1.5
260.0	1.8	0.7	0.9	1.1	1.3	1.1	1.3	1.5	1.5	1.3
250.0	1.8	1.3	1.3	0.9	0.9	1.1	1.3	1.5	1.3	0.9
240.0	1.7	1.1	0.9	1.1	0.9	0.9	0.9	1.1	0.9	1.1
230.0	1.7	0.9	0.9	0.9	1.1	1.1	1.3	1.3	1.7	1.5
220.0	1.5	0.9	1.1	1.3	1.3	1.5	1.3	1.1	1.1	1.1
210.0	1.8	1.3	1.1	0.9	0.9	1.1	0.9	0.9	1.1	1.3
200.0	1.3	0.9	0.9	0.9	0.9	1.1	1.3	1.3	1.5	1.5
190.0	1.1	1.1	1.3	1.3	1.3	1.3	1.5	1.3	1.7	1.3
180.0	1.1	0.9	0.9	0.7	1.1	0.9	0.9	1.1	1.1	1.1
170.0	1.7	0.9	0.7	0.9	0.9	1.1	1.3	1.1	1.3	1.5
160.0	1.7	0.9	0.7	0.9	0.9	0.9	1.1	1.3	1.5	1.7
150.0	1.8	1.1	1.1	0.9	0.9	1.1	1.1	1.1	1.1	1.3
140.0	1.5	1.1	0.7	0.9	1.3	1.5	1.3	1.1	1.1	1.1
130.0	2.2	1.5	1.3	1.3	0.9	0.7	0.9	1.1	1.3	1.5
120.0	1.8	0.9	0.9	0.9	0.9	0.9	0.9	1.3	1.3	1.8
110.0	2.2	1.1	0.9	0.9	1.1	1.3	1.5	1.3	1.5	1.3
100.0	2.4	1.5	1.1	1.3	1.1	0.9	0.9	0.9	0.9	1.1
90.0	2.0	1.1	0.9	1.1	0.9	1.1	0.9	0.9	1.1	1.1
80.0	2.2	0.9	0.9	0.9	1.1	1.3	1.3	1.3	1.3	1.1
70.0	2.4	1.5	1.1	1.1	1.1	0.9	0.9	1.1	0.9	1.7
60.0	2.6	1.3	0.9	0.9	0.9	1.3	1.5	1.3	1.3	1.3
50.0	2.6	1.5	1.3	0.7	0.7	1.1	1.3	1.3	1.5	1.3
40.0	2.2	1.1	0.9	0.9	1.1	1.3	1.3	1.3	1.3	1.3
30.0	2.0	0.7	0.7	0.9	1.1	0.9	1.1	1.1	1.3	1.5
20.0	2.2	0.9	0.7	0.9	1.1	0.9	1.1	1.5	1.5	1.5
10.0	2.4	1.1	0.9	0.6	0.7	0.9	1.3	1.5	1.5	1.5
0.0	2.8	1.3	1.3	1.5	1.1	1.3	1.1	1.3	1.3	1.1

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

Equipment: GMS1800
Temperature(°C): 25.0

Date:
Humidity(%): 50.0%

Operator: Roy Kao
Distance(m): 13.6



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1. Luminaire Specification :

- (1) Input Voltage/Frequency : 110 V ac / 60Hz
- (2) Input Watt : 29.5 W
- (3) Input Current : 0.477 A
- (4) Total Luminous Flux Output : 1518.01 lm
- (5) Luminaire Efficacy : 51.46 lm/W
- (6) Central Intensity (cd): 1208.968
- (7) Maximum Intensity(cd): 1214.509
- (8)PF: 0.569

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: $55\pm 10\%$



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4. Photograph of EUT :

