



Report No.: 30W(90)

Test Time: 2011-11-19 16:44

## Luminaire Property

Luminaire Category: LED  
Luminaire Manufacturer: LIONWAY  
Lamp Description: LED MODE  
Lumens per Lamp: 30  
Luminous Width (mm): 600  
Voltage: 220.0 V  
Power: 30.20 W

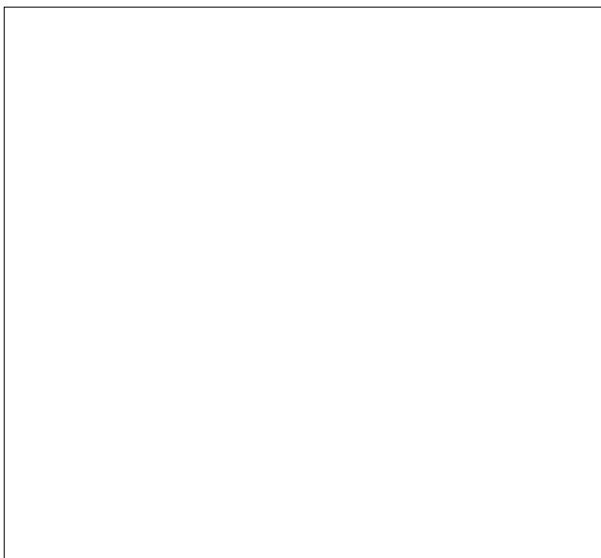
Luminaire Description: 1  
Lamp Catalog: SAMSUNG  
Number of Lamps: 75  
Luminous Length (mm): 600  
Luminous Height (mm):  
Current: 0.143 A  
Power Factor: 0.959

## Photometric Results

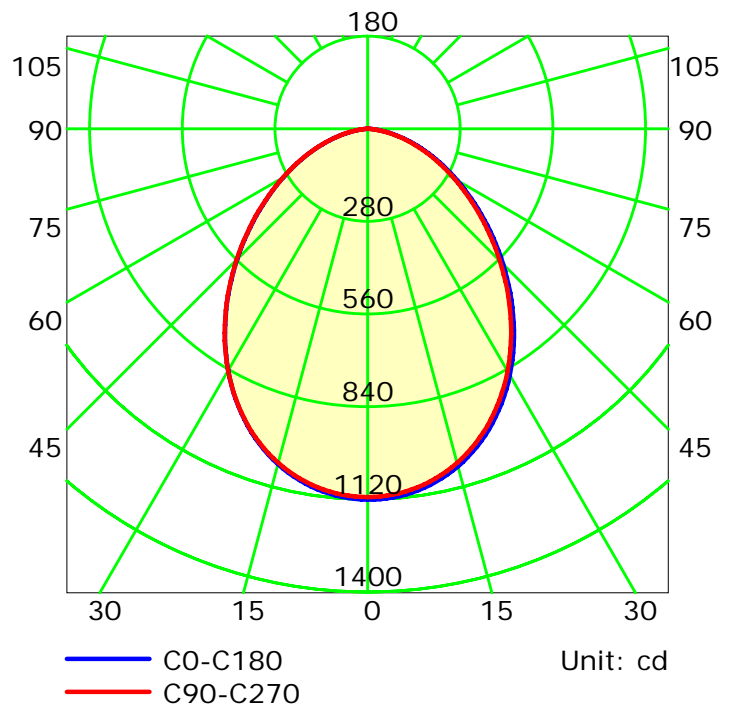
CIE Class: Direct  
Measurement Flux: 2434.5 lm  
Downward Ratio: 108.20%  
Luminaire Efficacy Rating (LER): 81  
Max. Intensity: 1120.91 cd

Total Rated Lamp Lumens: 2250.0 lm  
Efficiency: 108.20%  
Upward Ratio: 0.00%  
Central Intensity: 1120.9 cd  
Pos of Max. Intensity: H0 V0

Picture Of Luminaire



Luminous Intensity Distribution Curve



Test Lab: LIONWAY  
Test Type: TYPE C  
Temperature: 25  
Operator: 02

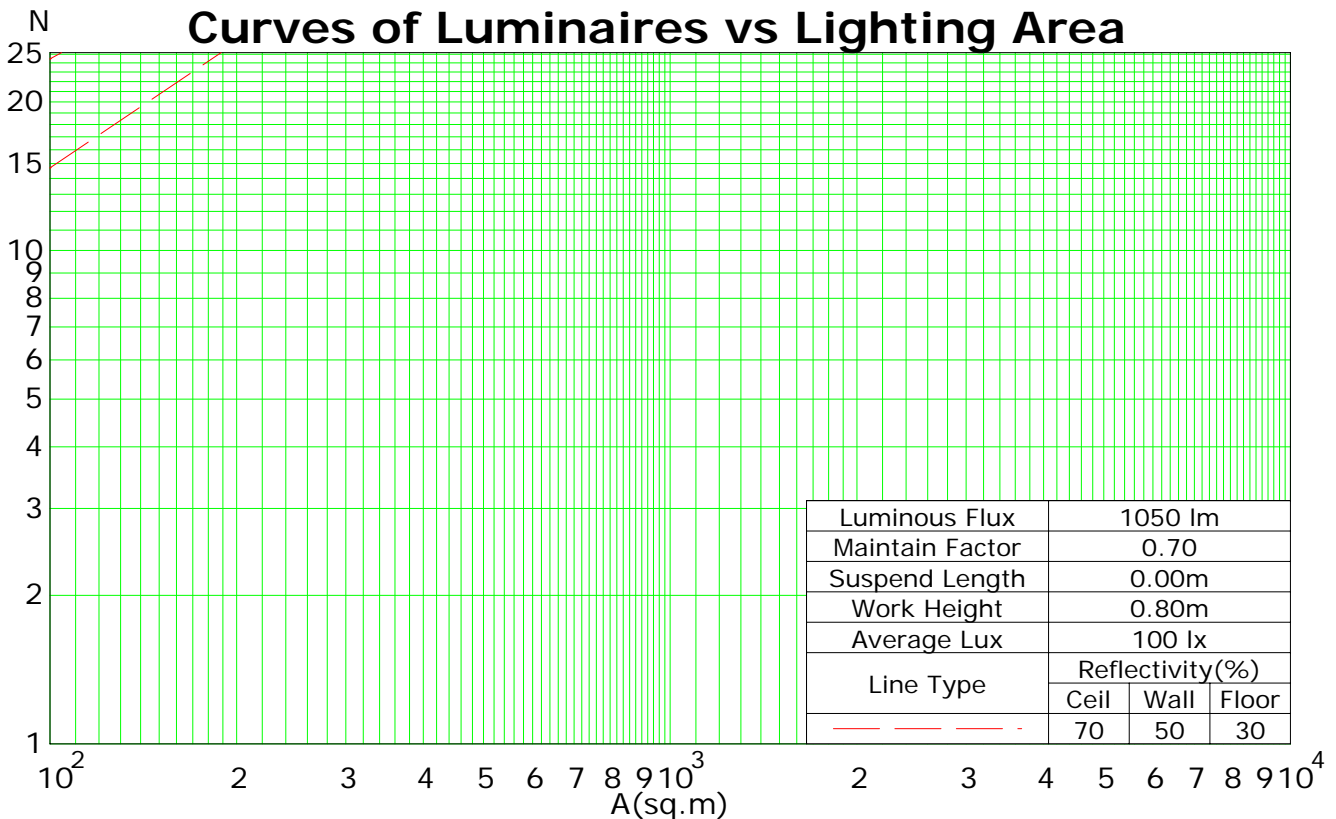
Test Device: GPM-1800  
Distance: 8.344 m  
Humidity: 65  
Inspector:



### Coefficients Of Utilization - Zonal Cavity Method

RC	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0
RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
RCR	RF = 0.2																	
0	129	129	129	129	126	126	126	126	120	120	120	115	115	115	110	110	110	108
1	119	114	110	107	116	112	108	105	108	104	102	103	101	99	99	97	96	93
2	109	101	95	89	107	99	93	88	95	90	86	92	88	84	89	85	82	80
3	100	90	82	75	98	88	81	75	85	79	73	82	77	72	80	75	71	69
4	93	81	72	65	90	79	71	65	76	69	64	74	68	63	72	66	62	60
5	86	73	63	57	83	71	63	56	69	62	56	67	60	55	65	59	55	53
6	79	66	57	50	77	65	56	50	63	55	49	61	54	49	59	53	49	47
7	74	60	51	45	72	59	51	45	58	50	44	56	49	44	55	48	44	42
8	69	55	46	40	67	54	46	40	53	45	40	52	45	40	50	44	39	37
9	65	51	42	37	63	50	42	36	49	41	36	48	41	36	47	40	36	34
10	61	47	39	33	59	46	39	33	45	38	33	44	38	33	43	37	33	31

Spacing Criteria (0-180): 1.14  
 Spacing Criteria (90-270): 1.14  
 Spacing Criteria (Diagonal): 1.22

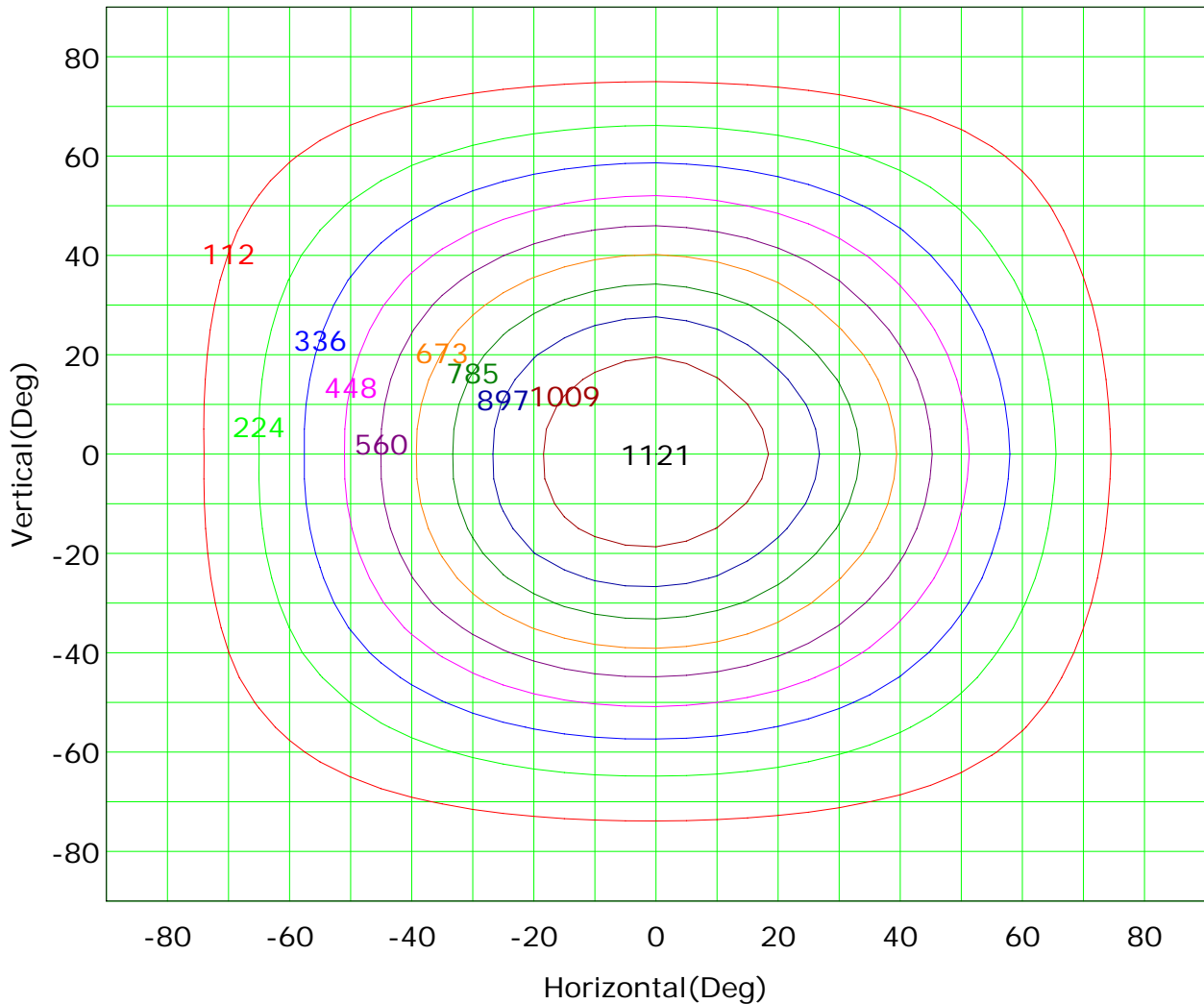


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 Inspector:



## Isocandela (rectangle)



Imax (100%): 1121 cd

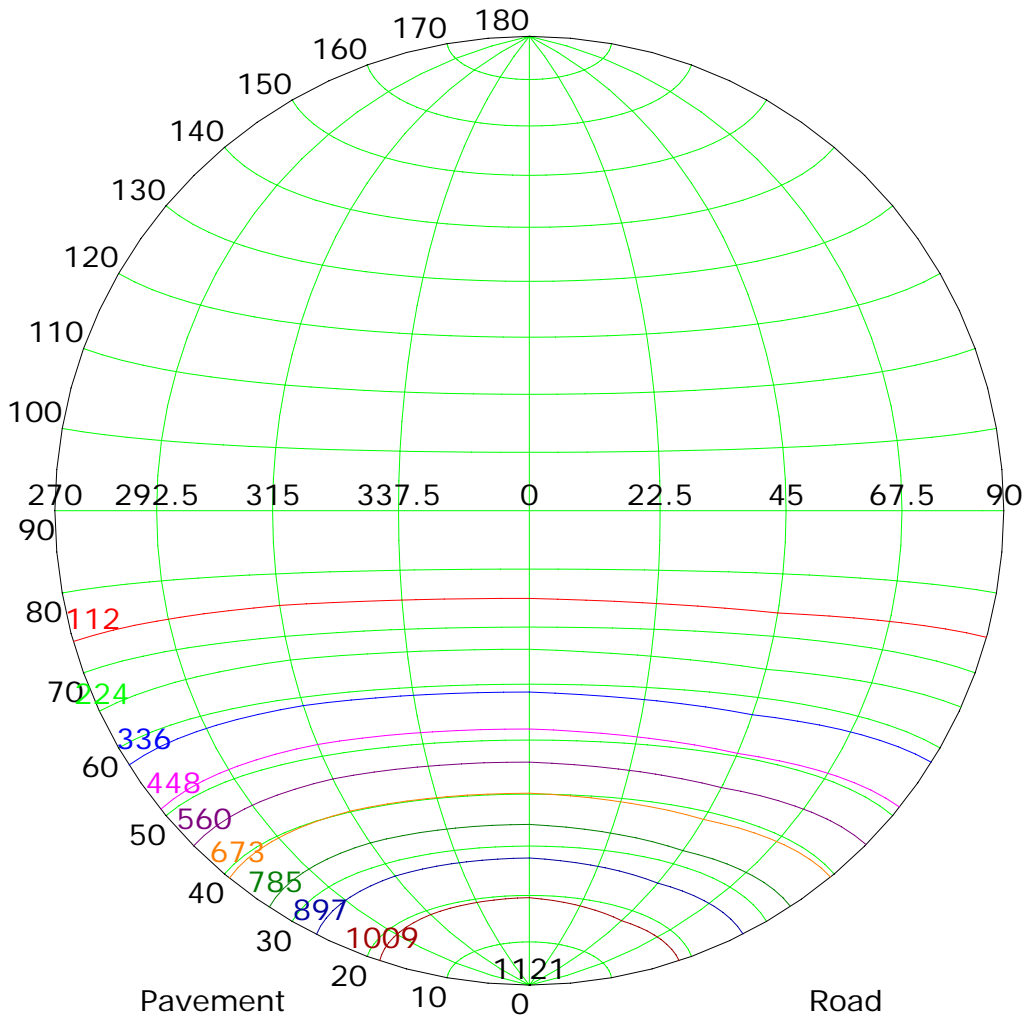
( 10%):	112 cd	( 20%):	224 cd
( 30%):	336 cd	( 40%):	448 cd
( 50%):	560 cd	( 60%):	673 cd
( 70%):	785 cd	( 80%):	897 cd
( 90%):	1009 cd	(100%):	1121 cd

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## Isocandela (sphere)

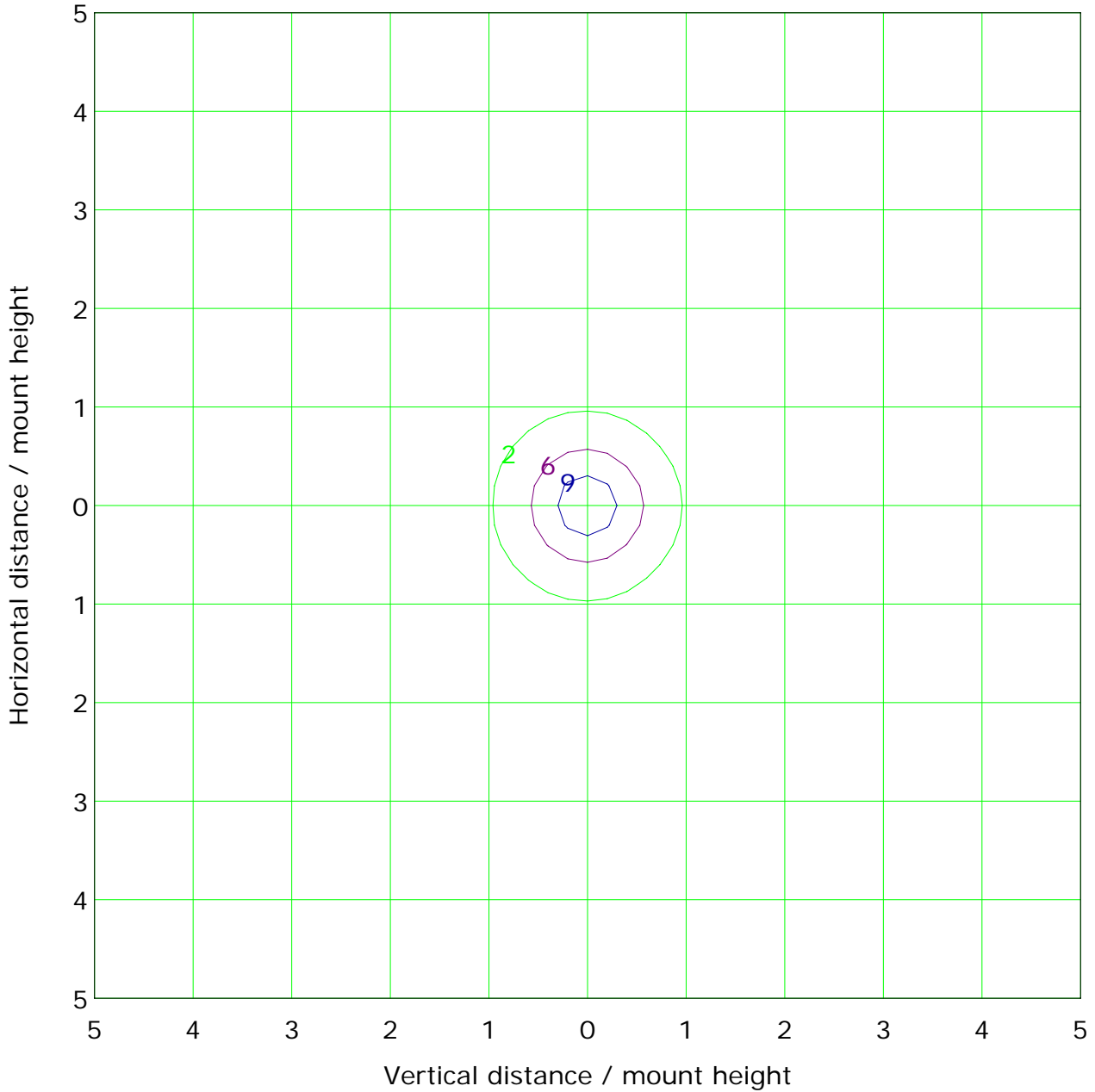


Imax (100%): 1121 cd

— ( 10%):	112 cd	— ( 20%):	224 cd
— ( 30%):	336 cd	— ( 40%):	448 cd
— ( 50%):	560 cd	— ( 60%):	673 cd
— ( 70%):	785 cd	— ( 80%):	897 cd
— ( 90%):	1009 cd	— (100%):	1121 cd



# IsoLux Plot



Mounting Height: 10m    Max Lux(100%): 11 lx

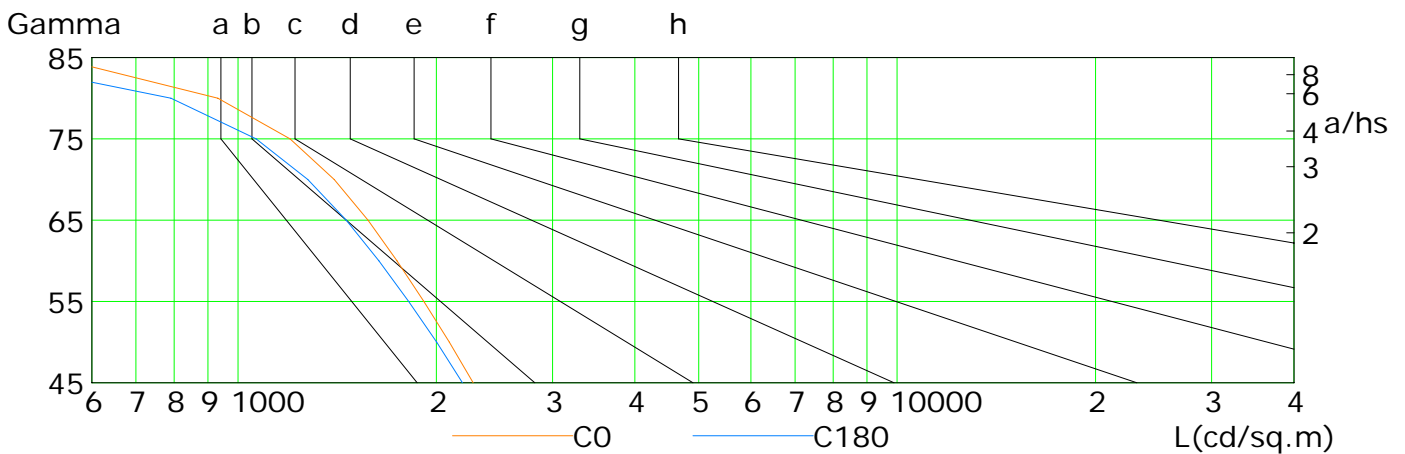
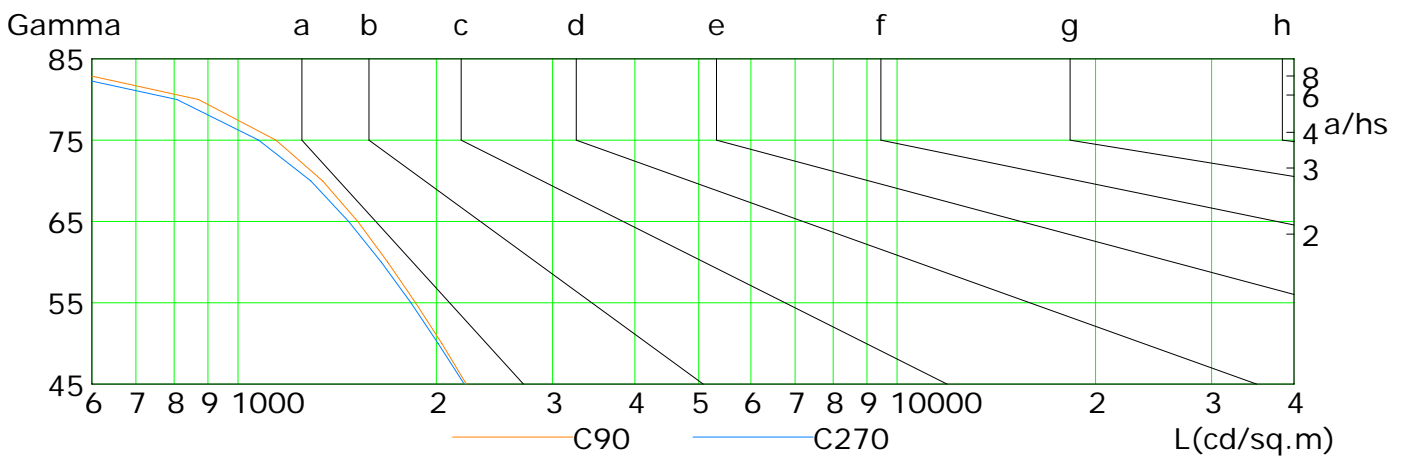
— ( 20%):	2 lx	— ( 50%):	6 lx
— ( 80%):	9 lx	— (100%):	11 lx



## Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
		2000	1000	500	<=300				
1.15	A								
1.50	B								
1.85	C								
2.20	D								
2.55	E								

a b c d e f g h



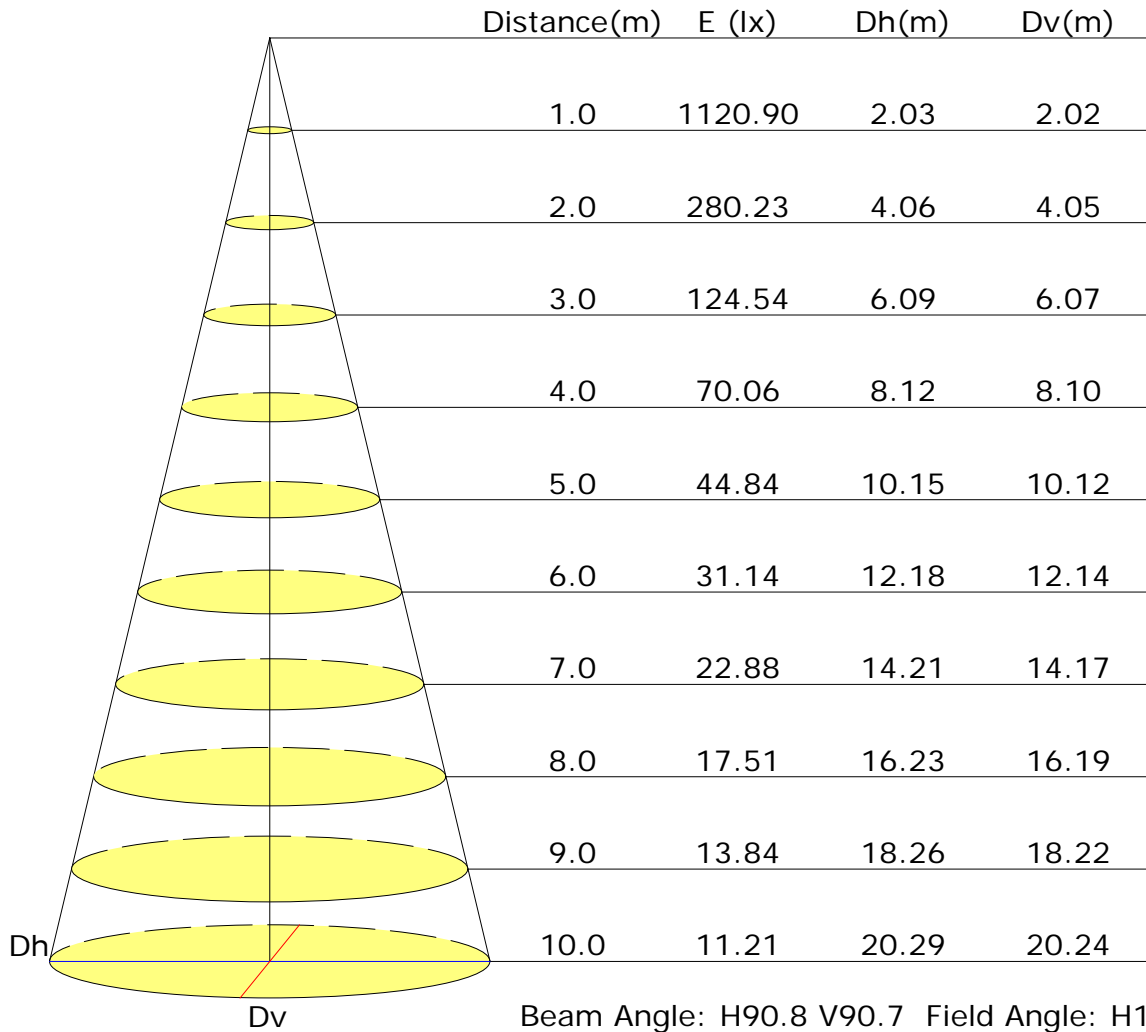
L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	2274	2093	1914	1742	1575	1400	1199	932	527
C90	2220	2038	1859	1687	1519	1344	1142	871	456
C180	2190	2002	1815	1635	1460	1276	1065	791	394
C270	2204	2012	1829	1650	1472	1289	1075	808	420

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## Illuminance at a Distance





## Zonal Lumen

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	1114.7	1.1	1.1	0.05	0.05
1.0-2.0	1114.1	3.2	4.3	0.14	0.19
2.0-3.0	1113.0	5.3	9.6	0.24	0.43
3.0-4.0	1111.2	7.4	17.0	0.33	0.76
4.0-5.0	1108.7	9.5	26.6	0.42	1.18
5.0-6.0	1105.8	11.6	38.2	0.52	1.70
6.0-7.0	1102.1	13.7	51.9	0.61	2.31
7.0-8.0	1097.9	15.7	67.6	0.70	3.00
8.0-9.0	1093.1	17.7	85.3	0.79	3.79
9.0-10.0	1087.6	19.7	105.0	0.87	4.67
10.0-11.0	1081.5	21.6	126.6	0.96	5.63
11.0-12.0	1074.8	23.5	150.1	1.04	6.67
12.0-13.0	1067.6	25.3	175.4	1.13	7.80
13.0-14.0	1059.8	27.1	202.6	1.21	9.00
14.0-15.0	1051.3	28.9	231.4	1.28	10.29
15.0-16.0	1042.3	30.5	262.0	1.36	11.64
16.0-17.0	1032.5	32.2	294.1	1.43	13.07
17.0-18.0	1022.1	33.7	327.8	1.50	14.57
18.0-19.0	1011.3	35.2	363.0	1.56	16.13
19.0-20.0	999.9	36.6	399.6	1.63	17.76
20.0-21.0	987.9	37.9	437.6	1.69	19.45
21.0-22.0	975.4	39.2	476.8	1.74	21.19
22.0-23.0	962.0	40.4	517.1	1.79	22.98
23.0-24.0	948.0	41.5	558.6	1.84	24.83
24.0-25.0	933.8	42.5	601.1	1.89	26.71
25.0-26.0	919.0	43.4	644.4	1.93	28.64
26.0-27.0	903.8	44.2	688.7	1.97	30.61
27.0-28.0	888.0	45.0	733.6	2.00	32.61
28.0-29.0	871.8	45.6	779.2	2.03	34.63
29.0-30.0	855.0	46.2	825.4	2.05	36.69
30.0-31.0	837.8	46.6	872.0	2.07	38.76
31.0-32.0	820.3	47.0	919.1	2.09	40.85
32.0-33.0	802.7	47.3	966.3	2.10	42.95
33.0-34.0	784.7	47.5	1013.8	2.11	45.06
34.0-35.0	766.3	47.6	1061.4	2.12	47.18
35.0-36.0	747.6	47.6	1109.0	2.12	49.29

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### Zonal Lumen (Continue 1)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	728.6	47.5	1156.6	2.11	51.40
37.0-38.0	709.5	47.4	1203.9	2.10	53.51
38.0-39.0	690.4	47.1	1251.1	2.09	55.60
39.0-40.0	671.3	46.8	1297.9	2.08	57.68
40.0-41.0	652.1	46.4	1344.3	2.06	59.75
41.0-42.0	632.7	46.0	1390.3	2.04	61.79
42.0-43.0	613.0	45.4	1435.7	2.02	63.81
43.0-44.0	593.6	44.8	1480.5	1.99	65.80
44.0-45.0	574.6	44.2	1524.7	1.96	67.76
45.0-46.0	555.4	43.4	1568.1	1.93	69.70
46.0-47.0	536.4	42.7	1610.8	1.90	71.59
47.0-48.0	517.4	41.8	1652.6	1.86	73.45
48.0-49.0	498.4	40.9	1693.6	1.82	75.27
49.0-50.0	479.9	40.0	1733.6	1.78	77.05
50.0-51.0	461.7	39.1	1772.7	1.74	78.78
51.0-52.0	443.7	38.1	1810.7	1.69	80.48
52.0-53.0	425.9	37.1	1847.8	1.65	82.12
53.0-54.0	408.4	36.0	1883.8	1.60	83.72
54.0-55.0	391.1	34.9	1918.7	1.55	85.28
55.0-56.0	373.9	33.8	1952.5	1.50	86.78
56.0-57.0	357.3	32.7	1985.2	1.45	88.23
57.0-58.0	341.2	31.6	2016.7	1.40	89.63
58.0-59.0	325.2	30.4	2047.1	1.35	90.98
59.0-60.0	309.6	29.2	2076.4	1.30	92.28
60.0-61.0	294.2	28.1	2104.5	1.25	93.53
61.0-62.0	279.1	26.9	2131.4	1.20	94.73
62.0-63.0	264.2	25.7	2157.1	1.14	95.87
63.0-64.0	249.8	24.5	2181.6	1.09	96.96
64.0-65.0	235.8	23.3	2204.9	1.04	98.00
65.0-66.0	222.0	22.2	2227.1	0.98	98.98
66.0-67.0	208.4	21.0	2248.0	0.93	99.91
67.0-68.0	195.2	19.8	2267.8	0.88	100.79
68.0-69.0	182.0	18.6	2286.4	0.83	101.62
69.0-70.0	169.3	17.4	2303.8	0.77	102.39
70.0-71.0	156.9	16.2	2320.0	0.72	103.11
71.0-72.0	144.7	15.0	2335.1	0.67	103.78

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Test Device: GPM-1800  
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Inspector:



### Zonal Lumen (Continue 2)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	132.9	13.9	2349.0	0.62	104.40
73.0-74.0	121.2	12.7	2361.7	0.57	104.96
74.0-75.0	109.8	11.6	2373.3	0.52	105.48
75.0-76.0	98.7	10.5	2383.8	0.47	105.95
76.0-77.0	87.9	9.4	2393.2	0.42	106.36
77.0-78.0	77.5	8.3	2401.4	0.37	106.73
78.0-79.0	67.4	7.2	2408.7	0.32	107.05
79.0-80.0	57.6	6.2	2414.9	0.28	107.33
80.0-81.0	48.2	5.2	2420.1	0.23	107.56
81.0-82.0	39.4	4.3	2424.4	0.19	107.75
82.0-83.0	31.2	3.4	2427.8	0.15	107.90
83.0-84.0	23.8	2.6	2430.4	0.12	108.02
84.0-85.0	17.0	1.9	2432.2	0.08	108.10
85.0-86.0	11.1	1.2	2433.5	0.05	108.15
86.0-87.0	6.3	0.7	2434.1	0.03	108.18
87.0-88.0	2.6	0.3	2434.4	0.01	108.20
88.0-89.0	0.5	0.1	2434.5	0.00	108.20
89.0-90.0	0.0	0.0	2434.5	0.00	108.20
90.0-0.0	557.9	0.0	2434.5	0.00	108.20
0.0-0.0	557.9	0.0	2434.5	0.00	108.20
0.0-0.0	0.0	0.0	2434.5	0.00	108.20
0.0-1114.9	0.0	-90.0	2344.5	-4.00	104.20
1114.9-1114.6	0.5	-87.5	2257.0	-3.89	100.31
1114.6-1113.7	2.1	-85.0	2172.0	-3.78	96.53
1113.7-1112.2	4.3	-82.5	2089.5	-3.67	92.87
1112.2-1110.1	6.4	-80.0	2009.5	-3.56	89.31
1110.1-1107.4	8.5	-77.5	1932.0	-3.44	85.87
1107.4-1104.1	10.6	-75.0	1857.0	-3.33	82.53
1104.1-1100.1	12.7	-72.5	1784.5	-3.22	79.31
1100.1-1095.6	14.7	-70.0	1714.5	-3.11	76.20
1095.6-1090.5	16.7	-67.5	1647.0	-3.00	73.20
1090.5-1084.7	18.7	-65.0	1582.0	-2.89	70.31
1084.7-1078.3	20.6	-62.5	1519.5	-2.78	67.53
1078.3-1071.3	22.6	-60.0	1459.5	-2.67	64.87
1071.3-1063.9	24.4	-57.5	1402.0	-2.56	62.31
1063.9-1055.7	26.2	-55.0	1347.0	-2.44	59.87

Test Lab: LIONWAY  
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 Temperature: 25  
 Operator: 02

Test Device: GPM-1800  
 Distance: 8.344 m  
 Humidity: 65  
 Inspector:



### Candlepower Table

Unit: cd

GVC	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G0.0	1120.9	1115.9	1113.1	1109.8	1120.9	1115.9	1113.1	1109.8	1120.9	
G1.0	1120.8	1114.9	1112.7	1109.0	1120.2	1116.3	1112.5	1110.0	1120.8	
G2.0	1120.1	1113.5	1111.8	1107.6	1119.2	1116.2	1111.6	1109.8	1120.1	
G3.0	1118.6	1111.4	1110.1	1105.8	1117.5	1115.3	1110.3	1108.8	1118.6	
G4.0	1116.7	1108.5	1108.1	1103.0	1115.3	1113.7	1108.3	1107.0	1116.7	
G5.0	1114.3	1105.2	1105.6	1099.8	1112.4	1111.7	1105.6	1104.9	1114.3	
G6.0	1111.2	1101.3	1102.3	1096.1	1108.6	1109.1	1102.1	1102.1	1111.2	
G7.0	1107.2	1096.4	1098.1	1091.3	1104.6	1105.8	1098.3	1098.9	1107.2	
G8.0	1102.9	1091.4	1093.6	1086.9	1099.8	1102.0	1093.9	1094.6	1102.9	
G9.0	1098.2	1085.7	1088.6	1081.0	1094.6	1097.2	1088.8	1090.0	1098.2	
G10.0	1092.7	1079.3	1083.0	1074.9	1088.3	1092.1	1082.7	1084.7	1092.7	
G11.0	1086.2	1072.5	1076.2	1068.1	1081.8	1086.4	1076.5	1078.8	1086.2	
G12.0	1079.6	1064.5	1069.4	1060.2	1074.5	1080.2	1069.5	1072.5	1079.6	
G13.0	1072.4	1056.5	1062.1	1052.4	1066.7	1073.4	1062.1	1065.6	1072.4	
G14.0	1064.4	1047.8	1053.9	1043.9	1058.3	1065.4	1054.0	1057.7	1064.4	
G15.0	1056.0	1038.7	1045.3	1034.9	1048.9	1057.1	1044.8	1049.4	1056.0	
G16.0	1047.0	1028.7	1036.1	1025.0	1039.4	1048.5	1035.6	1040.9	1047.0	
G17.0	1036.8	1017.6	1025.8	1014.7	1028.9	1038.6	1025.5	1031.1	1036.8	
G18.0	1026.5	1006.7	1015.1	1003.2	1018.2	1028.7	1015.2	1021.3	1026.5	
G19.0	1015.9	994.9	1004.3	991.9	1006.3	1018.3	1003.5	1011.0	1015.9	
G20.0	1003.9	982.8	992.1	979.5	994.4	1007.3	991.9	999.6	1003.9	
G21.0	992.1	970.2	980.1	967.0	982.1	995.2	979.8	988.1	992.1	
G22.0	979.7	957.1	967.6	953.9	968.5	982.3	966.7	975.3	979.7	
G23.0	966.3	942.6	953.9	939.5	954.2	969.1	952.5	962.2	966.3	
G24.0	951.9	928.4	939.3	925.4	940.0	955.8	938.7	949.1	951.9	
G25.0	937.9	913.1	925.1	910.1	924.6	941.9	923.7	935.3	937.9	
G26.0	923.5	897.9	910.5	895.1	909.5	927.4	908.9	920.2	923.5	
G27.0	907.9	881.4	894.8	879.5	893.9	911.6	893.6	905.5	907.9	
G28.0	892.5	865.4	879.1	862.6	877.0	896.2	876.8	890.3	892.5	
G29.0	876.6	848.4	863.0	845.7	860.6	879.5	860.6	873.8	876.6	
G30.0	859.3	831.6	845.7	828.9	843.0	863.3	843.4	856.8	859.3	
G31.0	842.0	813.5	828.2	810.7	825.8	845.6	826.5	840.3	842.0	
G32.0	825.0	795.9	811.1	793.2	807.3	828.5	808.1	823.4	825.0	
G33.0	807.8	778.1	792.6	775.5	789.5	811.2	790.4	805.5	807.8	
G34.0	788.9	760.1	774.8	757.4	771.3	792.7	772.4	788.0	788.9	
G35.0	770.9	741.1	756.7	738.5	752.0	773.7	753.5	769.2	770.9	
G36.0	752.6	722.6	737.6	719.9	732.4	755.4	733.9	751.2	752.6	

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 Operator: 02

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 Humidity: 65  
 Inspector:



### Candlepower Table (Continue 1)

Unit: cd

GVC	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G37.0	733.4	702.8	719.2	700.2	713.5	735.9	715.1	732.0	733.4	
G38.0	713.7	683.5	699.4	680.8	694.6	717.2	696.4	713.6	713.7	
G39.0	695.0	664.7	680.7	662.0	675.5	698.3	676.7	695.0	695.0	
G40.0	676.0	645.8	661.8	643.2	655.6	678.2	657.7	675.3	676.0	
G41.0	657.0	627.0	642.9	624.5	635.5	659.2	637.6	656.5	657.0	
G42.0	637.3	607.0	623.3	604.4	616.5	639.1	618.6	636.7	637.3	
G43.0	617.3	587.5	603.4	585.7	596.5	619.0	598.9	616.9	617.3	
G44.0	598.4	568.6	584.6	566.2	577.5	599.9	579.9	598.1	598.4	
G45.0	578.9	549.9	565.1	547.5	557.5	580.9	561.0	579.3	578.9	
G46.0	560.1	530.2	546.5	527.8	538.7	562.0	541.1	559.8	560.1	
G47.0	541.4	511.7	528.0	509.4	520.0	542.3	522.5	541.1	541.4	
G48.0	521.6	493.4	508.4	491.0	500.7	522.5	503.3	521.8	521.6	
G49.0	503.2	474.7	490.1	472.3	481.4	504.0	483.8	502.6	503.2	
G50.0	484.3	457.0	471.5	454.7	463.3	484.8	465.6	484.5	484.3	
G51.0	466.4	438.4	453.8	436.1	445.4	466.6	447.8	466.5	466.4	
G52.0	448.5	421.2	435.2	419.0	427.1	448.7	429.6	448.8	448.5	
G53.0	429.9	403.7	417.8	402.1	409.9	430.2	412.4	430.5	429.9	
G54.0	412.7	387.0	401.0	384.8	392.1	412.7	394.4	413.4	412.7	
G55.0	395.3	369.7	383.8	367.5	374.7	394.9	377.7	395.6	395.3	
G56.0	377.7	353.5	366.5	351.4	358.4	377.3	360.7	378.2	377.7	
G57.0	361.5	337.1	350.5	335.0	342.3	360.8	344.6	361.9	361.5	
G58.0	345.5	321.5	334.3	319.5	325.8	344.7	327.8	346.0	345.5	
G59.0	329.1	306.3	318.8	304.3	310.3	328.2	312.3	329.4	329.1	
G60.0	313.6	290.5	303.6	288.5	294.4	312.6	297.0	313.9	313.6	
G61.0	298.5	275.9	288.8	273.9	279.5	296.6	281.6	298.1	298.5	
G62.0	282.7	261.2	273.4	259.2	264.3	281.6	267.0	283.3	282.7	
G63.0	267.7	247.2	258.7	245.3	250.1	266.3	251.9	267.9	267.7	
G64.0	253.5	232.6	244.7	230.8	236.2	252.0	237.9	253.7	253.5	
G65.0	239.6	219.3	231.1	217.4	222.1	238.1	223.9	239.7	239.6	
G66.0	225.2	206.2	217.0	204.4	208.8	223.7	210.6	225.5	225.2	
G67.0	211.9	192.9	204.0	191.1	195.2	210.3	196.7	211.5	211.9	
G68.0	198.4	180.4	190.9	178.6	181.8	196.6	183.5	198.5	198.4	
G69.0	184.9	167.3	177.7	165.6	169.4	183.2	170.9	185.1	184.9	
G70.0	172.4	154.8	165.4	153.1	157.1	170.7	158.7	172.6	172.4	
G71.0	159.6	143.3	153.1	141.5	144.7	157.9	146.0	159.7	159.6	
G72.0	147.1	131.3	140.8	129.6	133.3	145.5	134.5	147.5	147.1	
G73.0	135.5	120.2	129.5	118.5	121.3	133.8	122.6	135.6	135.5	

Test Lab: LIONWAY  
Test Type: TYPE C  
Temperature: 25  
Operator: 02

Test Device: GPM-1800  
Distance: 8.344 m  
Humidity: 65  
Inspector:

