

燈具配光曲線試驗報告

測試標準：CIE 70 (1987 年版)、CIE 84 (1989 年版)

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報告簽署人：



報告簽署人
黃錫偉

試驗報告

測試樣品基本資料

委測廠商：昶旭能源股份有限公司
委測廠商地址：新竹市東區埔頂里公道五路二段 83 號 5 樓之 3
製造廠商：昶旭能源股份有限公司
製造廠商地址：新竹市東區埔頂里公道五路二段 83 號 5 樓之 3
商標或廠牌：CooLED
產品名稱：8700LM LED 路燈
型號：S3090C-001
額定電壓(V)：100~277
額定頻率(Hz)：50/60
額定功率(W)：75
適用光源：LED
LED chip 廠牌/型號：Lumileds/LUXEON 3030 2D
搭配驅動器廠牌/型號：MEAN WELL/ELG-75-42A
燈具尺寸：長 432 mm、寬 160 mm、高 90 mm

-以下空白-

試驗內容

試驗條件

環境溫度 (°C)	25.2
環境濕度(%)	51.1
γ 軸取樣步距	5°
C 軸取樣步距	5°

電氣測試

試驗項目	試驗結果
電壓(V)	220.0
頻率(Hz)	60
電流(A)	0.356
功率(W)	76.2
功率因數	0.973

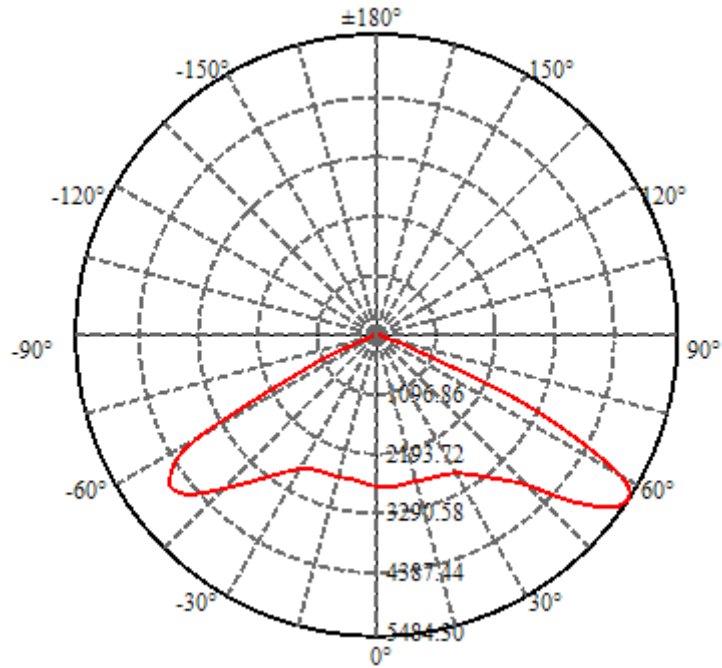
配光量測

試驗項目	試驗結果
燈具全光通量 (lm)	9073.8
燈具發光效率 (lm/W)	119.1
中心光強度 (cd)	2745.3
最大光強度 (cd)	5484.3
最大光強度角度 (°)	C : 5.0 γ : 55.0
色溫 (K)	5318
色座標	x : 0.3370 y : 0.3506
演色性 (Ra)	84.4
半峰邊角 (50% I _{max})	C0_180 L=62.3 R=65.9
	C90_270 L=18.0 R=53.2

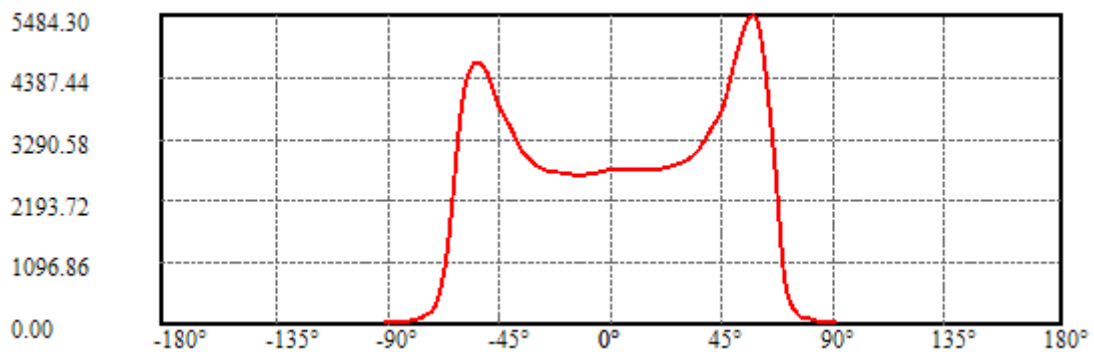
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配光曲線圖(一)

極座標圖 C0 / 180

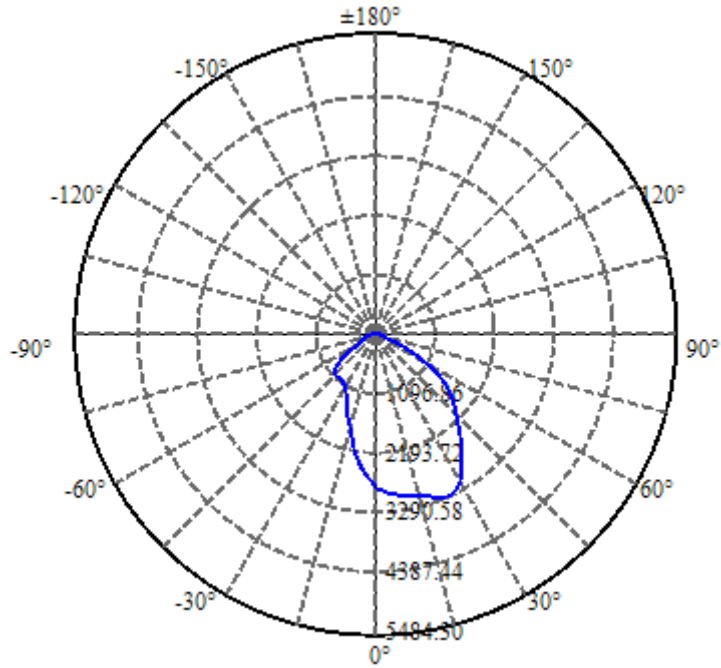


直角座標圖 C0 / 180

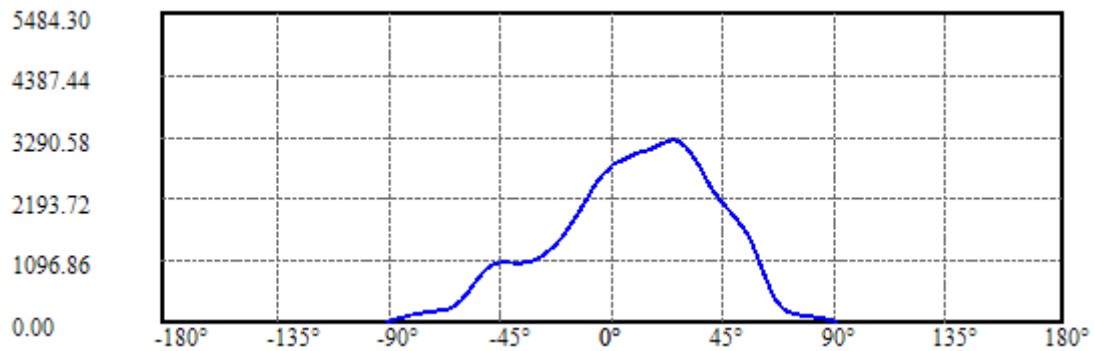


配光曲線圖(二)

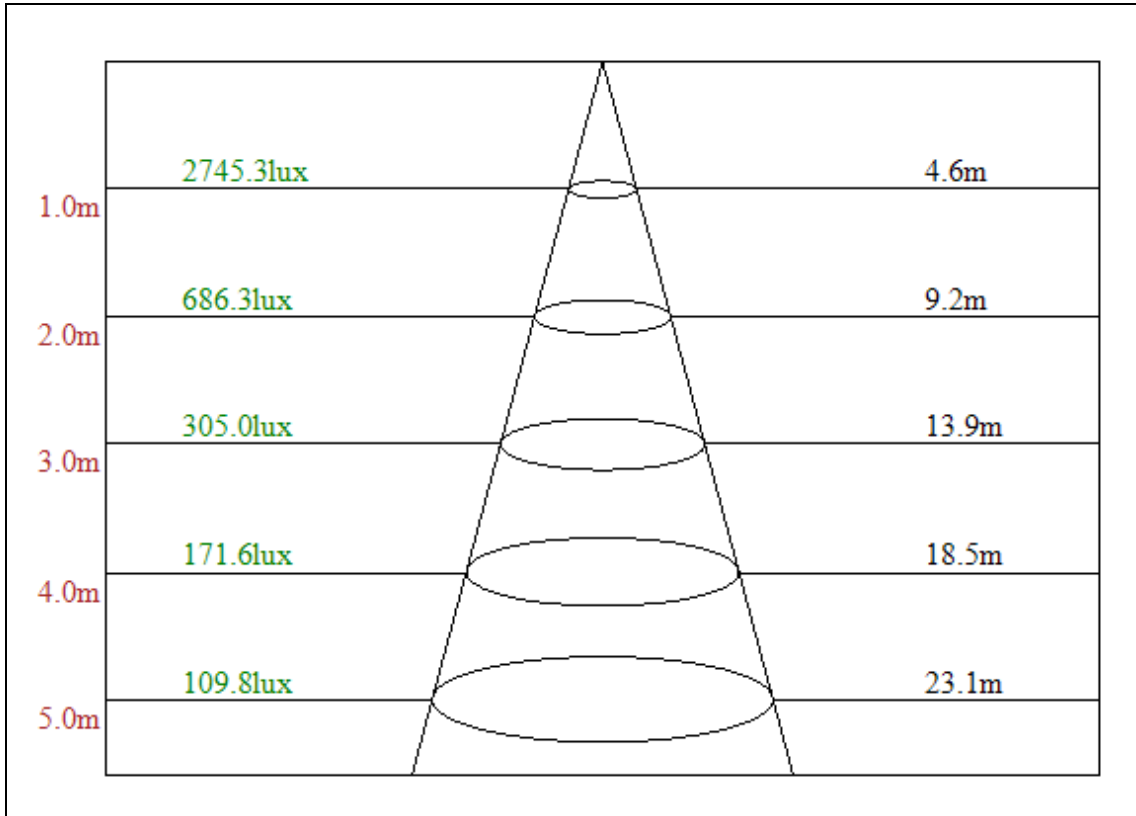
極座標圖 C90 / 270



直角座標圖 C90 / 270



照度距離表



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測試樣品照片

測試樣品外觀

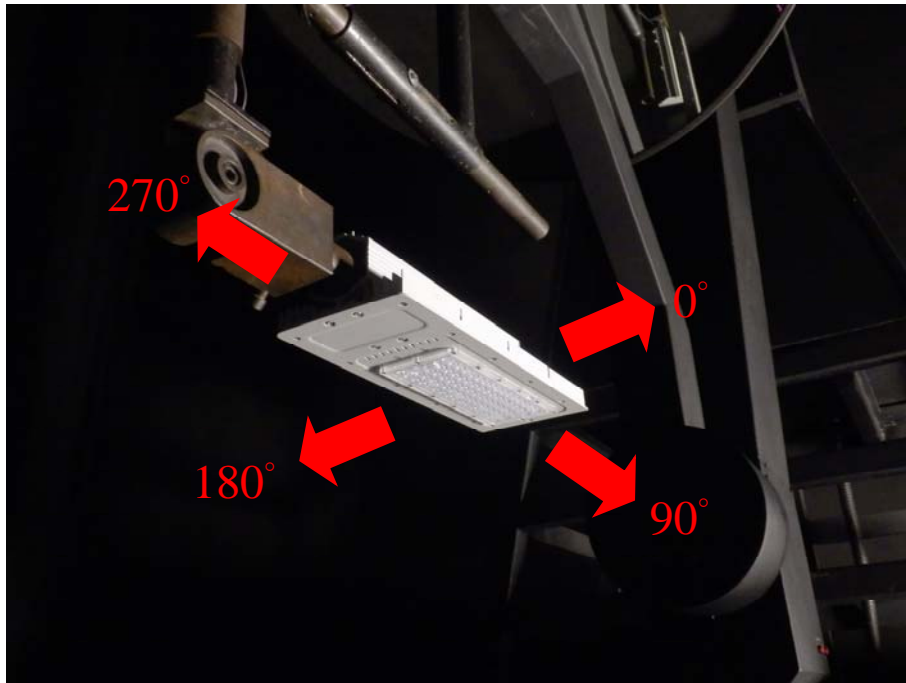


測試樣品外觀



測試樣品照片

測試樣品架設方向



測試樣品驅動器



光強數據表(一)

光強數據表(cd)

$\gamma/C(^{\circ})$	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0
0	2745.333	2744.625	2754.531	2760.899	2777.881	2789.909	2787.786	2784.249
5	2769.39	2787.786	2811.136	2825.995	2846.514	2881.184	2884.722	2889.675
10	2770.805	2801.938	2833.778	2866.326	2898.873	2934.959	2938.497	2944.865
15	2758.069	2812.551	2864.91	2910.194	2946.28	2985.903	2990.856	3001.469
20	2775.758	2845.806	2908.779	2949.818	2995.101	3048.168	3050.999	3067.273
25	2821.749	2936.374	3002.177	3061.612	3093.452	3123.877	3150.057	3159.256
30	2907.364	3044.631	3157.84	3220.106	3242.748	3261.852	3255.483	3254.776
35	3114.679	3278.125	3385.675	3421.053	3414.685	3409.731	3375.061	3340.391
40	3436.619	3582.376	3679.312	3681.435	3627.66	3556.904	3490.394	3404.779
45	3877.429	4055.734	4086.866	4006.912	3922.713	3793.937	3655.255	3501.714
50	4712.35	4815.653	4739.944	4539.705	4362.815	4190.17	3965.166	3766.342
55	5424.155	5484.297	5269.199	4950.797	4696.076	4439.939	4138.519	3863.985
60	5166.603	5296.087	5056.931	4702.444	4301.965	4059.979	3648.887	3194.633
65	3117.51	3568.225	3487.563	3118.217	2837.316	2448.158	2066.783	1638.709
70	766.8535	993.768	1067	989.3104	838.3879	676.0028	491.8957	372.3888
75	155.5217	184.8147	198.9659	179.8618	156.0877	143.4932	135.7808	130.8279
80	85.26098	91.69978	98.28008	97.36026	93.82245	94.03472	96.22816	92.26582
85	45.14233	46.91122	54.26985	56.39253	54.97741	54.76514	55.82648	53.20851
90	19.10412	24.83536	28.3024	25.25989	24.05704	23.84477	22.78343	22.42965

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光強數據表(二)

光強數據表(cd)

第 2 頁 共 10 頁

$\gamma/C(^{\circ})$	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0
0	2784.956	2780.711	2799.815	2796.985	2793.447	2792.032	2787.786	2796.985
5	2903.826	2893.213	2922.93	2927.176	2922.93	2923.638	2922.223	2928.591
10	2964.677	2961.138	2990.856	2992.271	2994.394	2997.932	3000.762	3019.159
15	3024.112	3024.112	3036.14	3036.14	3038.263	3043.216	3042.508	3077.178
20	3081.424	3088.499	3102.651	3099.113	3114.679	3116.094	3138.029	3168.454
25	3157.133	3169.869	3179.775	3174.114	3191.803	3189.68	3203.832	3197.464
30	3233.549	3212.322	3201.001	3191.096	3145.812	3115.386	3082.131	3060.905
35	3280.956	3234.964	3123.877	3051.706	2995.101	2906.656	2830.24	2748.871
40	3273.173	3125.292	3012.79	2862.08	2730.474	2602.406	2479.998	2407.119
45	3298.645	3106.188	2879.062	2666.794	2494.149	2313.721	2218.908	2105.698
50	3488.979	3183.313	2852.175	2564.198	2353.344	2163.011	2011.593	1882.11
55	3445.11	3080.009	2663.963	2390.138	2080.934	1843.901	1684.7	1560.17
60	2765.852	2302.4	1979.753	1641.539	1382.572	1232.569	1129.266	1071.953
65	1246.013	1012.518	780.4387	641.7569	557.5573	513.6885	523.5944	469.8198
70	272.4814	229.8155	211.5604	220.3342	256.632	211.2067	216.3011	204.6971
75	131.9599	144.2007	187.7864	170.0267	173.989	190.3336	173.989	147.1017
80	95.80362	113.5634	108.1859	136.7006	130.2618	128.1391	119.2239	116.1106
85	52.07642	51.86415	67.50122	83.7751	79.03445	81.3694	76.69951	79.67126
90	22.71268	27.66559	28.9392	29.50525	30.56659	30.70811	30.35432	28.01937

-以下空白-



光強數據表 (三)

光強數據表(cd)

第 3 頁 共 10 頁

$\gamma/C(^{\circ})$	80.0	85.0	90.0	95.0	100.0	105.0	110.0	115.0
0	2800.522	2788.494	2786.371	2784.249	2794.154	2781.418	2795.57	2799.815
5	2934.959	2917.27	2906.656	2901.703	2903.119	2886.137	2883.307	2887.552
10	3030.479	3007.13	2983.073	2968.922	2969.629	2949.11	2942.034	2942.742
15	3092.745	3064.442	3053.121	3043.216	3045.338	3050.291	3034.017	3029.772
20	3180.482	3179.067	3171.991	3171.991	3184.728	3191.096	3176.944	3150.057
25	3198.171	3219.398	3220.106	3218.69	3239.21	3254.776	3272.465	3251.946
30	3038.97	3067.98	3093.452	3117.51	3138.029	3171.991	3188.265	3222.936
35	2734.012	2733.304	2752.408	2802.645	2870.571	2922.223	2968.922	3053.829
40	2354.76	2363.25	2381.647	2429.761	2491.319	2579.764	2678.115	2831.655
45	2045.556	2045.556	2072.443	2116.312	2184.945	2277.636	2400.751	2596.038
50	1812.061	1815.599	1832.58	1874.326	1952.158	2050.509	2170.086	2365.373
55	1502.858	1484.461	1487.291	1541.066	1613.237	1697.436	1882.11	2088.01
60	1013.226	999.0746	989.1689	1013.933	1063.463	1153.323	1283.514	1448.375
65	447.8855	440.8099	444.3477	456.3762	504.4903	548.359	580.1992	630.4359
70	191.8195	184.8147	192.1025	195.7818	229.0372	238.2354	255.8537	300.2885
75	140.7337	140.5922	145.9696	143.6347	156.5123	176.4655	192.0318	171.9371
80	111.7945	110.8746	114.4832	110.6624	118.9408	127.2193	127.29	126.2287
85	75.56741	70.40222	73.51549	75.70892	76.55799	75.77968	79.31747	77.47782
90	22.00512	14.08044	16.34464	23.98628	27.38257	29.15147	29.85903	31.13264

-以下空白-

光強數據表 (四)

光強數據表(cd)

第 4 頁 共 10 頁

$\gamma/C(^{\circ})$	120.0	125.0	130.0	135.0	140.0	145.0	150.0	155.0
0	2793.447	2789.909	2784.249	2784.956	2773.635	2758.776	2767.267	2754.531
5	2872.694	2864.91	2850.052	2847.929	2827.41	2797.692	2792.739	2764.437
10	2929.298	2918.685	2912.317	2903.119	2877.646	2853.589	2845.806	2818.211
15	3029.064	3011.375	3002.885	2984.488	2956.186	2932.129	2926.468	2889.675
20	3130.245	3116.802	3102.651	3083.546	3051.706	3035.432	3028.357	2988.026
25	3225.059	3215.86	3201.709	3186.85	3178.36	3159.256	3153.595	3123.17
30	3242.748	3268.927	3295.107	3296.522	3306.428	3317.749	3309.258	3315.626
35	3148.642	3234.257	3326.24	3387.797	3435.204	3488.979	3544.168	3592.282
40	2994.394	3127.415	3302.89	3426.713	3571.055	3671.529	3772.002	3876.014
45	2748.163	3000.762	3225.766	3453.6	3680.727	3852.664	4020.356	4162.575
50	2618.679	2926.468	3202.417	3513.035	3783.323	4072.715	4309.748	4514.233
55	2395.798	2649.812	3050.999	3446.525	3802.427	4159.745	4389.702	4674.849
60	1635.171	1930.224	2332.118	2709.247	3213.03	3549.829	3935.448	4259.511
65	725.9566	872.4215	1042.236	1301.203	1567.953	2007.348	2387.307	2708.54
70	280.4768	280.7598	296.6799	331.2088	393.6156	482.0606	580.27	712.4421
75	194.862	204.4141	163.0926	157.9981	154.2481	154.4603	155.3094	152.3377
80	122.1956	105.9925	105.6387	99.69521	100.1197	103.799	101.6764	102.3839
85	80.94486	59.85958	51.22735	55.54346	63.18511	63.11435	61.9115	61.84074
90	31.27415	33.18456	28.9392	25.96745	27.02879	26.39199	27.52408	27.94862

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光強數據表 (五)

光強數據表(cd)

第 5 頁 共 10 頁

$\gamma/C(^{\circ})$	160.0	165.0	170.0	175.0	180.0	185.0	190.0	195.0
0	2750.993	2745.333	2755.946	2738.257	2744.625	2747.455	2742.502	2751.701
5	2750.286	2735.427	2726.936	2692.266	2684.483	2671.039	2652.643	2638.491
10	2801.23	2770.805	2746.748	2700.756	2672.454	2640.614	2597.453	2562.075
15	2862.788	2825.995	2792.032	2709.247	2663.256	2609.481	2564.198	2500.517
20	2959.016	2893.92	2848.636	2753.116	2681.652	2592.5	2503.347	2413.487
25	3083.546	3015.621	2954.771	2845.806	2717.03	2584.717	2486.366	2334.24
30	3285.909	3238.502	3157.133	3019.159	2838.731	2639.199	2464.431	2327.165
35	3597.943	3553.366	3456.431	3315.626	3056.659	2859.25	2586.132	2336.363
40	3913.514	3943.939	3859.032	3743.7	3476.95	3131.661	2773.635	2496.272
45	4320.361	4395.363	4374.136	4213.52	3928.373	3495.346	3046.046	2738.965
50	4702.444	4908.344	4978.392	4796.549	4509.28	3907.146	3365.863	2795.57
55	5011.647	5250.095	5376.041	5215.425	4610.461	3803.135	3038.263	2418.44
60	4618.244	4962.826	5064.714	4706.689	3826.484	2877.646	2124.095	1444.13
65	3026.234	3164.916	3066.565	2668.916	1406.7	1226.838	683.786	474.8435
70	768.764	732.3246	657.4647	564.7744	358.5914	207.9519	187.4326	189.6261
75	147.8093	143.9177	131.8892	130.8986	121.0635	120.9928	127.7146	134.4364
80	105.851	103.4453	90.35542	90.8507	81.65243	82.28923	89.64785	89.93088
85	62.47755	57.2416	52.28868	47.97257	46.06216	47.61879	52.00566	47.90181
90	29.22223	31.27415	27.66559	22.07587	21.8636	24.34007	25.96745	24.97687

-以下空白-



光強數據表 (六)

光強數據表(cd)

第 6 頁 共 10 頁

$\gamma/C(^{\circ})$	200.0	205.0	210.0	215.0	220.0	225.0	230.0	235.0
0	2750.286	2751.701	2769.39	2763.729	2777.173	2770.097	2774.343	2770.805
5	2624.34	2610.189	2600.283	2582.594	2574.811	2552.876	2547.924	2533.065
10	2530.942	2485.658	2447.45	2399.336	2373.864	2324.335	2288.957	2257.824
15	2421.27	2346.269	2294.617	2232.352	2167.964	2096.5	2047.679	1991.781
20	2310.183	2221.031	2128.34	2044.849	1973.385	1890.6	1819.844	1730.692
25	2217.493	2104.283	1992.489	1904.751	1797.91	1708.05	1618.897	1538.235
30	2161.596	2025.744	1911.12	1786.589	1698.852	1584.227	1475.263	1396.016
35	2166.549	2042.018	1880.694	1733.522	1603.331	1502.15	1418.658	1324.552
40	2276.928	2077.396	1885.647	1721.494	1594.133	1478.8	1381.865	1292.005
45	2431.176	2138.954	1888.478	1688.238	1567.953	1447.668	1335.166	1245.306
50	2332.118	2062.537	1786.589	1555.217	1375.497	1244.598	1174.55	1099.548
55	1930.224	1539.651	1271.485	1101.671	991.2916	891.5256	818.6469	761.3345
60	1027.377	790.3445	670.0593	587.9824	518.6415	472.6501	444.3477	423.1209
65	362.483	323.2134	307.8593	279.3447	267.1747	261.9387	260.3113	260.7358
70	195.4988	202.0791	203.1405	198.1168	198.6829	202.4329	204.7679	205.6877
75	150.0027	157.5029	154.3896	154.4603	157.0783	158.7765	167.9747	171.3003
80	90.8507	91.41675	92.6196	93.89321	92.33659	96.72346	100.6858	111.4407
85	46.13291	46.76972	50.09525	54.48212	52.28868	52.28868	52.57171	52.99625
90	24.55233	23.84477	23.6325	21.72209	17.689	17.61824	16.41539	14.43422

-以下空白-

光強數據表 (七)

光強數據表(cd)

第 7 頁 共 10 頁

$\gamma/C(^{\circ})$	240.0	245.0	250.0	255.0	260.0	265.0	270.0	275.0
0	2770.097	2778.588	2762.314	2759.484	2760.192	2766.56	2772.22	2768.682
5	2520.329	2517.499	2499.102	2493.441	2491.319	2500.517	2508.3	2514.668
10	2222.446	2216.785	2180.7	2164.426	2163.719	2165.841	2177.87	2184.945
15	1944.375	1896.968	1843.194	1819.137	1802.155	1799.325	1804.278	1818.429
20	1674.087	1608.991	1553.802	1519.839	1496.489	1481.631	1482.338	1502.15
25	1459.696	1391.771	1350.024	1299.788	1272.193	1253.796	1258.042	1268.655
30	1327.383	1267.24	1208.512	1161.813	1130.681	1110.869	1111.577	1130.681
35	1246.721	1187.286	1129.266	1100.256	1072.661	1054.972	1053.557	1069.831
40	1213.465	1169.597	1119.36	1087.52	1064.17	1047.896	1050.727	1066.293
45	1190.116	1130.681	1089.642	1064.878	1050.019	1044.359	1051.434	1062.755
50	1033.745	984.216	961.574	939.6396	934.6868	938.2245	953.7909	968.6496
55	723.8339	701.192	677.8425	665.814	664.3989	671.4744	682.7953	699.0693
60	414.6302	407.5545	399.7714	400.4789	401.8941	405.4319	411.7999	418.168
65	263.9199	267.5284	270.2172	271.2785	268.5898	255.4292	255.1461	271.4908
70	209.8623	212.834	212.3388	208.5887	210.9944	212.9048	212.9048	210.0746
75	168.8946	168.3993	165.6398	165.9228	171.5833	180.2155	181.1354	172.5031
80	119.7192	115.6861	115.6153	118.7286	123.1862	130.4033	130.0495	122.1249
85	53.91607	54.55288	55.33119	55.47271	53.13775	53.067	52.71322	52.78398
90	12.73608	11.60398	8.986012	7.42938	6.509552	7.924672	8.773745	7.853916

-以下空白-



光強數據表 (八)

光強數據表(cd)

第 8 頁 共 10 頁

$\gamma/C(^{\circ})$	280.0	285.0	290.0	295.0	300.0	305.0	310.0	315.0
0	2764.437	2767.267	2763.022	2765.852	2769.39	2770.097	2766.56	2770.805
5	2517.499	2531.65	2533.065	2556.414	2570.565	2584.009	2601.698	2622.925
10	2197.681	2230.229	2235.89	2276.928	2308.768	2339.193	2379.524	2416.317
15	1839.656	1874.326	1911.12	1968.432	2014.423	2083.764	2139.661	2179.285
20	1531.16	1567.953	1630.218	1687.531	1744.843	1819.844	1911.827	1978.338
25	1301.91	1340.826	1396.723	1466.772	1532.575	1614.652	1693.191	1772.438
30	1159.691	1192.239	1229.032	1287.759	1366.298	1442.007	1526.914	1602.623
35	1087.52	1122.898	1166.766	1211.343	1271.485	1335.873	1422.903	1526.207
40	1084.689	1114.407	1153.323	1192.239	1247.428	1325.967	1424.318	1521.254
45	1087.52	1115.115	1151.2	1197.192	1271.485	1363.468	1468.187	1591.302
50	983.5084	1004.028	1052.849	1107.331	1156.861	1260.872	1371.959	1549.556
55	717.4659	733.0322	750.0135	783.2689	824.3074	898.6012	988.4613	1091.057
60	421.7058	425.2436	428.7814	434.4419	447.8855	467.6972	512.2734	571.7085
65	277.2928	274.8163	271.9153	268.4483	268.1653	273.755	281.8211	289.1797
70	207.3858	208.7302	210.1453	208.0934	206.6783	207.3858	208.7302	209.7915
75	163.5171	161.1822	163.5171	164.8615	165.4275	163.7294	160.8991	164.2954
80	117.9503	115.12	113.6341	119.5776	113.8464	106.417	99.69521	104.2236
85	53.98683	54.69439	54.76514	54.76514	53.70381	52.50095	51.2981	51.08583
90	8.49072	9.764328	10.89642	12.17003	14.08044	15.77859	16.69842	17.26446

-以下空白-

光強數據表 (九)

光強數據表(cd)

第 9 頁 共 10 頁

$\gamma/C(^{\circ})$	320.0	325.0	330.0	335.0	340.0	345.0	350.0	355.0
0	2767.267	2751.701	2741.795	2746.04	2747.455	2748.871	2737.55	2744.625
5	2636.369	2644.152	2650.52	2673.162	2703.587	2720.568	2724.814	2755.239
10	2451.695	2482.12	2516.083	2569.15	2617.972	2652.643	2678.822	2734.719
15	2245.795	2316.551	2369.618	2445.327	2521.036	2594.623	2641.322	2703.587
20	2045.556	2124.803	2197.681	2303.815	2406.412	2498.394	2576.934	2688.021
25	1850.269	1954.281	2066.783	2161.596	2298.863	2412.072	2550.046	2686.605
30	1705.927	1820.552	1936.592	2051.216	2178.577	2366.788	2565.613	2747.455
35	1623.143	1714.418	1848.854	2000.98	2192.021	2401.459	2603.821	2874.816
40	1628.803	1747.673	1892.723	2083.057	2249.333	2528.112	2832.363	3152.18
45	1733.522	1916.072	2128.34	2308.061	2588.962	2879.769	3278.125	3634.736
50	1766.07	1958.526	2221.031	2589.67	3012.083	3466.336	3946.062	4367.768
55	1278.561	1529.745	1826.212	2282.589	2726.936	3460.676	4318.946	4972.024
60	660.861	805.9109	941.0548	1246.013	1671.257	2434.006	3522.234	4338.05
65	309.699	366.5161	365.101	428.7814	582.3219	847.6569	1478.8	2184.945
70	208.6594	211.4897	216.3011	212.0557	215.0275	235.6175	303.1895	493.2401
75	168.2578	170.2389	175.1919	163.1633	142.4318	134.3656	124.3183	128.1391
80	116.6059	115.403	112.0775	102.3132	89.71861	85.61476	77.90236	77.61933
85	56.18027	52.35944	47.19425	44.2225	43.86872	45.21309	43.37343	40.96772
90	20.66075	22.71268	22.57116	23.13721	22.78343	22.21738	20.73151	18.39656

-以下空白-

光強數據表 (十)

光強數據表(cd)

第 10 頁 共 10 頁

$\gamma/C(^{\circ})$	360.0
0	2745.333
5	2769.39
10	2770.805
15	2758.069
20	2775.758
25	2821.749
30	2907.364
35	3114.679
40	3436.619
45	3877.429
50	4712.35
55	5424.155
60	5166.603
65	3117.51
70	766.8535
75	155.5217
80	85.26098
85	45.14233
90	19.10412

-以下空白-

測試設備列表及人員

項次	儀器編號	量儀名稱	廠牌 / 型號 / 序號
1	99A-01	角度規	Johnson
2	99E-06	數位電力計	YOKOGAWA WT210 (91JB34563)
3	99E-08	數位電力計	YOKOGAWA WT210 (91K539455)
4	99E-12	AC Power Source	APC AFC-500W
5	99E-17	AC Power Source	APC AFC-5KW
6	990-01	立式大型分佈光度計	浙大三色 GMS-2000
7	990-02	快速光譜輻射分析儀(2 π)	浙大三色 SPR-3000
8	990-23	積分球(2 π)	浙大三色
9	1040-30	測光標準燈 110V/100W	浙大三色(S13100250)
10	103T-13	數字型溫濕度計	TANDD(TR-72UI/F80417A2)
11	103T-14	數字型溫濕度計	TANDD(TR-72UI/F8043A00)
			測試人員：陳建元

-以下空白-