

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

測試樣品基本資料表

委試公司：昶旭能源股份有限公司

委試公司地址：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

產品商標：CooLED

產品名稱：15000LM LED 戶外投射燈

主測型號：F2140C-401

增列型號：DS-143S86、SL-GA120W06002

額定電壓 (V)：100~277

額定頻率 (Hz)：50/60

額定功率 (W)：120

外觀尺寸 (mm)：長 402、寬 325、高 60

搭配安定器廠牌/型號：明緯/XLG-150-H-A

-以下空白-

差異分析說明

委試公司	昶旭能源股份有限公司
主測型號	F2140C-401
增列型號	DS-143S86、SL-GA120W06002

差異內容

增列型號與主測型號，除市場區隔而型號命名不同外，本體結構、尺寸、功率、光源與驅動器皆無差異，故為增列型號。

- 以下空白 -

試驗內容

試驗條件

環境溫度 (°C)	24.9
環境濕度 (% RH)	60.5
γ 軸取樣步距 (°)	5
C 軸取樣步距 (°)	5

電氣量測

試驗項目	試驗結果
電壓 (V)	220.0
頻率 (Hz)	60
電流 (A)	0.565
功率 (W)	121.3
功率因數	0.976

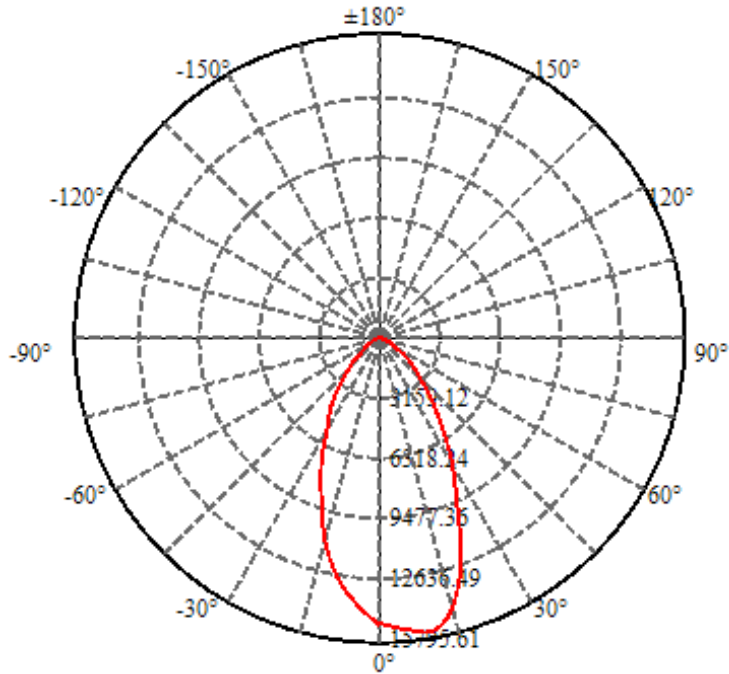
配光量測

試驗項目	試驗結果
燈具光通量 (lm)	15828.1
燈具發光效率 (lm/W)	130.5
中心光強度 (cd)	14745.9
最大光強度 (cd)	15795.6
最大光強度角度 (°)	C : 30.0 γ : 10.0
半峰邊角(50%Imax)	C0_180 Left=23.3 Right=29.2
	C90_270 Left=26.0 Right=27.4
色溫 (K)	5986
色座標	x : 0.3222 y : 0.3353
演色性(Ra)	82.9
R9	11
統一眩光指數 (UGR, Unified Glare Rating)	橫向觀察方向
	24.9
	縱向觀察方向
	24.7

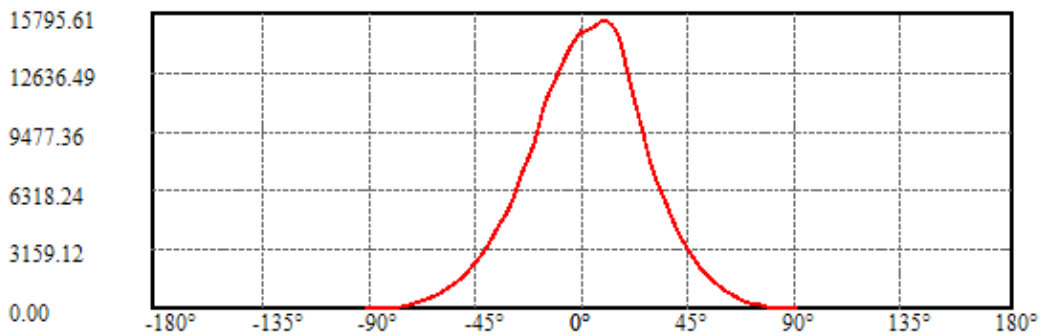
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配光曲線圖(一)

極座標圖 C0 / 180

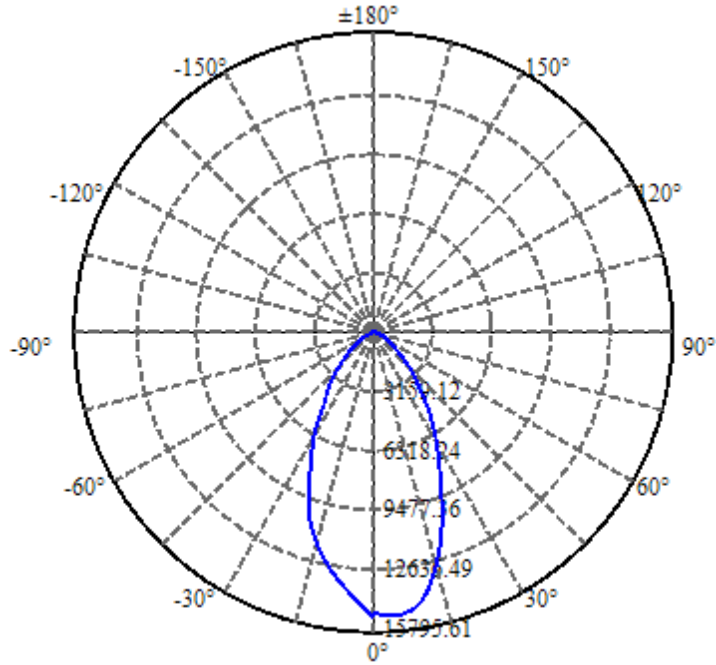


直角座標圖 C0 / 180

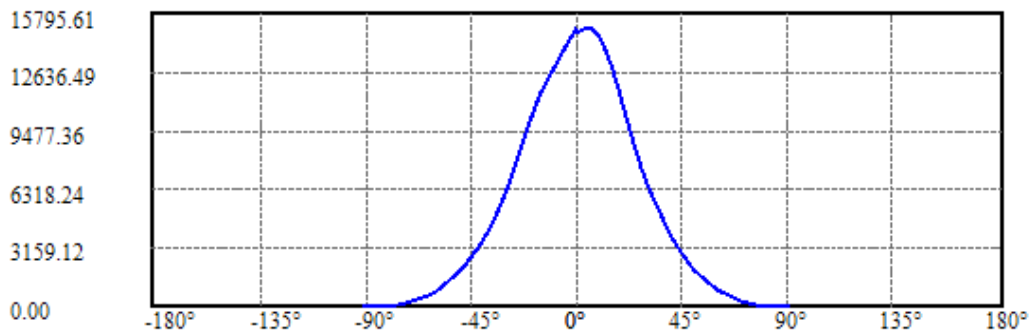


配光曲線圖(二)

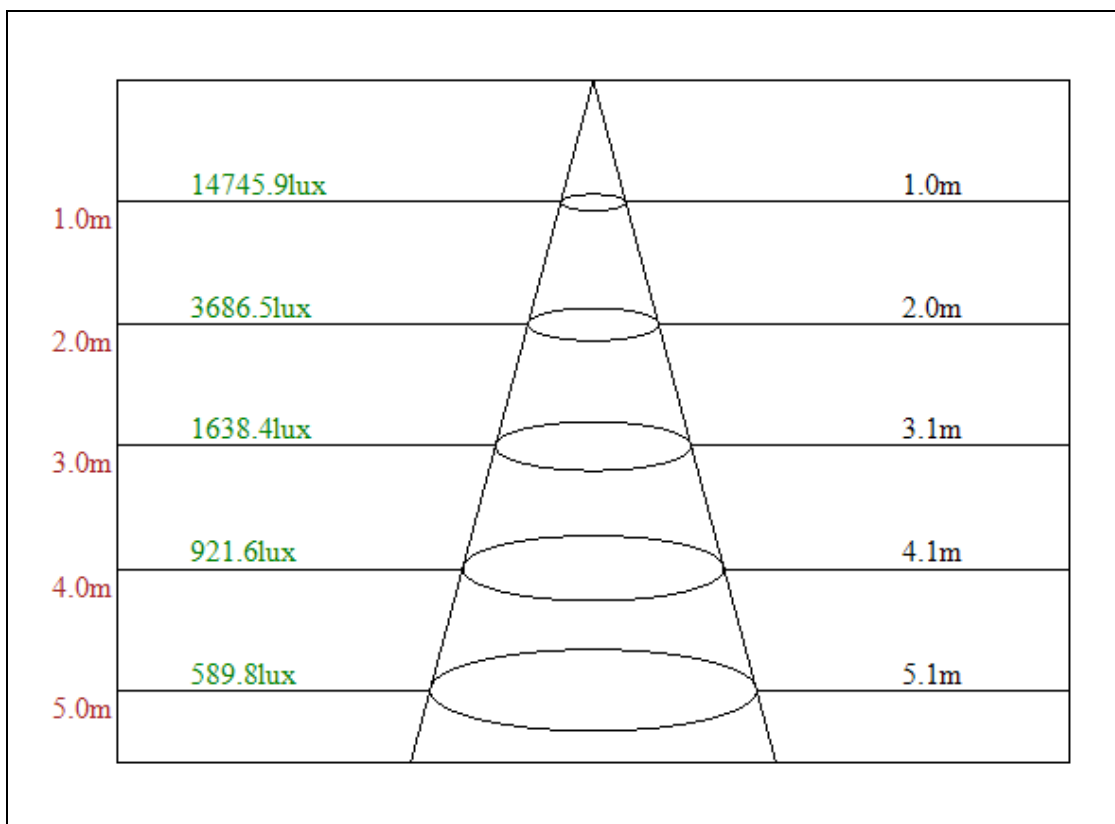
極座標圖 C90 / 270



直角座標圖 C90 / 270

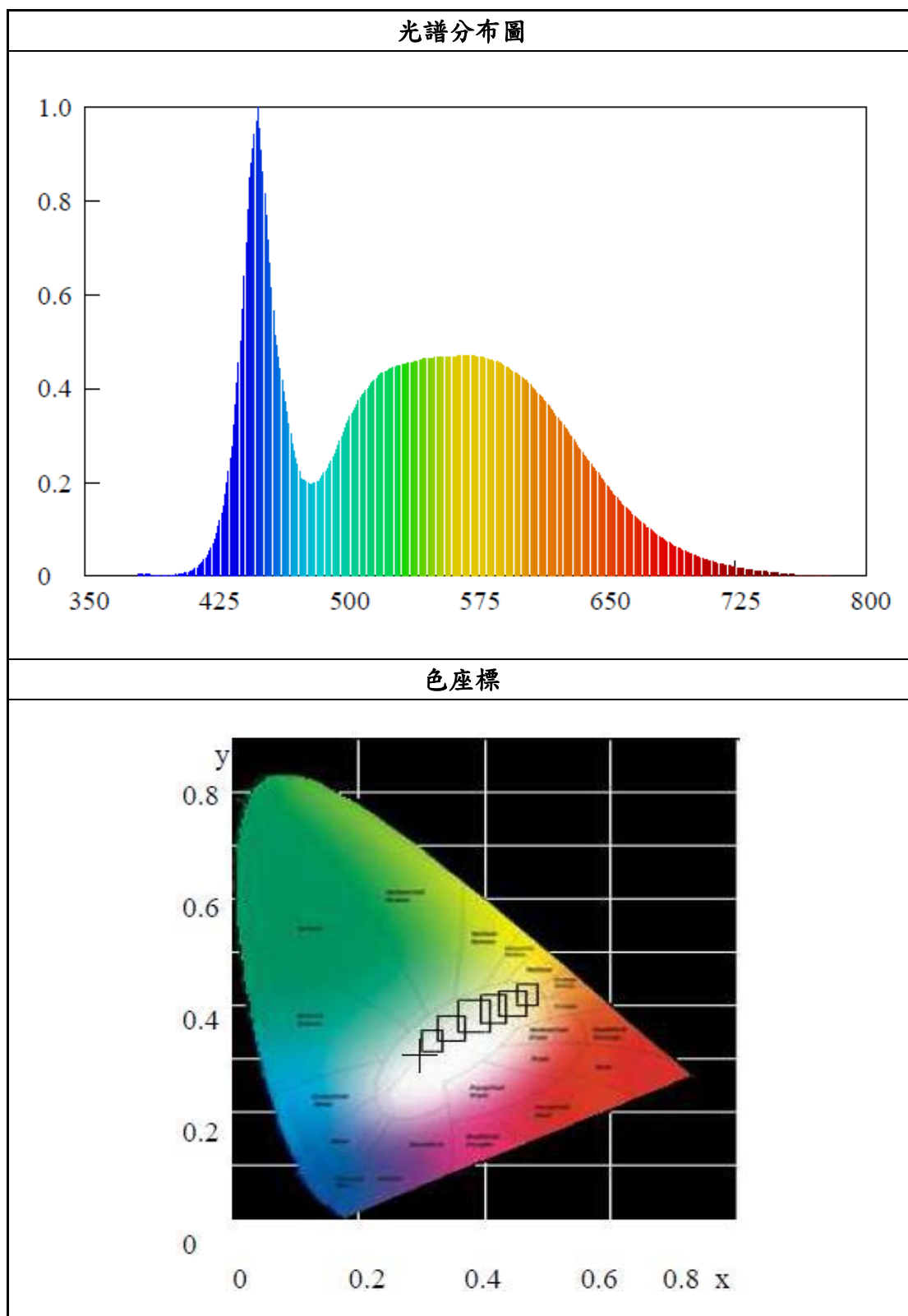


照度距離表



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光譜分布圖及色座標



測試樣品照片

測試樣品外觀

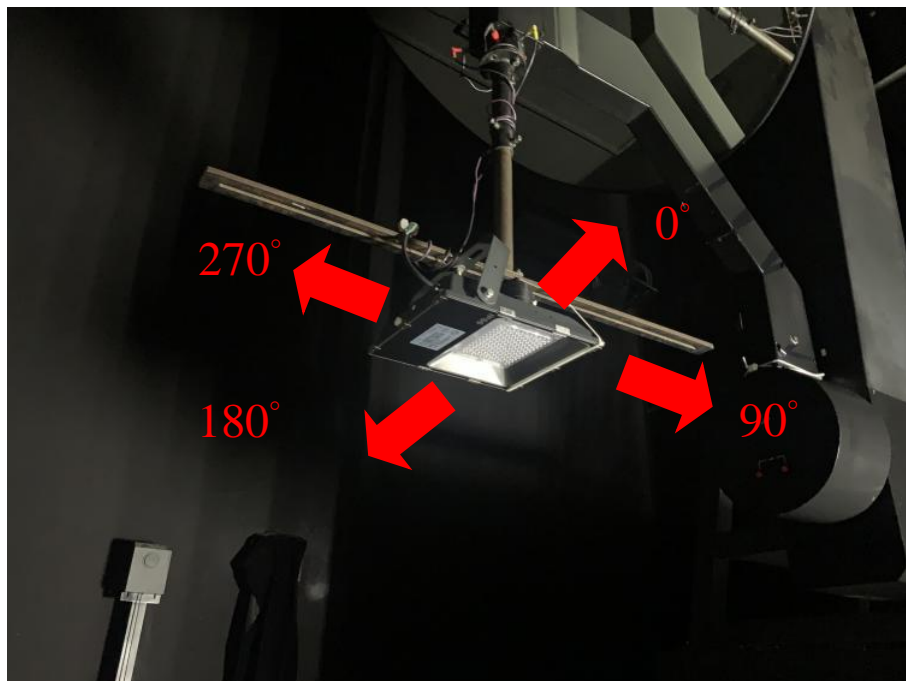


測試樣品外觀



測試樣品照片

測試樣品架設方向



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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	14745.85	14729.44	14729.44	14725.34	14684.34	14676.14	14680.24	14672.04
5	15155.91	15201.02	15225.62	15250.22	15250.22	15270.73	15303.53	15319.94
10	15406.05	15488.06	15533.17	15627.48	15721.8	15762.8	15795.61	15709.5
15	14573.62	14667.94	14647.43	14614.63	14618.73	14631.03	14635.13	14549.02
20	12281.37	12351.08	12470	12572.52	12617.62	12670.93	12609.42	12515.11
25	9640.569	9710.28	9771.789	9820.997	9812.796	9812.796	9829.198	9714.381
30	7356.521	7364.722	7397.528	7442.634	7413.93	7450.835	7463.138	7360.622
35	5650.661	5667.063	5638.359	5658.863	5662.963	5662.963	5646.561	5621.957
40	4244.147	4244.147	4309.757	4334.36	4354.864	4346.663	4264.65	4268.75
45	3059.066	3100.073	3095.972	3095.972	3091.871	3161.582	3210.789	3182.085
50	2184.813	2200.396	2225.819	2225.409	2233.2	2246.323	2251.243	2235.251
55	1469.664	1472.124	1477.865	1491.397	1490.987	1502.469	1526.253	1513.951
60	950.9349	956.2657	962.4166	966.9274	974.3085	990.7109	1003.833	992.3513
65	584.7491	590.08	597.4611	605.6623	615.9139	634.3667	643.7982	628.6258
70	329.6902	331.7406	335.4311	339.1217	347.733	355.5242	357.5745	350.1934
75	150.493	152.5433	155.0036	160.7445	164.8451	166.8954	166.8954	166.0753
80	42.6465	43.05656	45.51694	47.56725	50.02763	50.43769	50.02763	49.2075
85	2.870438	3.2805	3.2805	3.690562	4.100625	4.510687	4.92075	4.510687
90	0.820125	1.230188	1.230188	1.230188	1.230188	1.64025	1.230188	1.230188

-以下空白-

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	14676.14	14655.63	14651.53	14647.43	14651.53	14659.73	14672.04	14680.24
5	15307.63	15307.63	15283.03	15246.12	15205.12	15164.11	15123.11	15069.8
10	15504.46	15315.83	15135.41	14950.88	14860.67	14754.05	14672.04	14614.63
15	14389.09	14220.97	14085.65	13942.13	13753.5	13548.47	13286.03	13097.4
20	12338.78	12232.16	12072.24	11859.01	11612.97	11379.23	11223.41	11034.78
25	9656.972	9566.758	9468.343	9316.62	9132.092	8972.167	8853.249	8738.432
30	7299.112	7282.71	7237.603	7135.087	7028.471	6942.358	6827.541	6733.226
35	5613.755	5556.347	5474.334	5462.032	5433.328	5355.417	5252.901	5203.693
40	4297.455	4268.75	4219.543	4153.933	4108.827	4071.921	4014.512	3994.009
45	3059.066	3001.657	2985.255	2968.852	2911.444	2878.639	2841.733	2800.727
50	2227.87	2184.403	2152.828	2141.346	2086.808	2053.593	2030.63	2003.975
55	1481.966	1455.312	1427.017	1414.716	1397.083	1380.27	1360.177	1345.415
60	972.6682	954.6255	939.4531	925.9211	920.1802	906.6482	895.5765	876.7136
65	610.5831	604.0221	586.3893	568.7567	564.246	560.9655	555.6347	542.5127
70	341.9921	332.9707	324.7695	317.3884	310.4173	305.4966	298.9355	291.1444
75	164.8451	157.464	150.493	145.1621	142.7018	134.5005	127.9395	125.4791
80	48.38737	46.33706	44.28675	41.00625	38.95594	36.90563	34.85531	32.805
85	4.92075	4.510687	4.100625	4.100625	3.690562	3.690562	3.690562	3.690562
90	1.64025	1.230188	1.230188	1.64025	1.64025	1.64025	2.050313	1.64025

-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	14708.94	14717.14	14754.05	14762.25	14741.75	14778.65	14790.95	14770.45
5	15061.6	15012.39	14975.48	14913.97	14807.36	14770.45	14684.34	14643.33
10	14565.42	14520.31	14438.3	14302.98	14175.86	14044.64	13925.72	13823.21
15	12900.57	12810.35	12716.04	12560.21	12461.8	12408.49	12387.99	12404.39
20	10911.76	10792.84	10702.63	10591.91	10546.81	10477.1	10411.49	10333.58
25	8521.099	8398.08	8316.067	8238.155	8221.753	8217.653	8172.546	8152.042
30	6630.71	6618.409	6589.704	6491.29	6368.271	6347.767	6306.761	6196.044
35	5174.989	5125.781	5060.171	4978.159	4904.348	4879.744	4810.033	4793.63
40	3948.902	3866.889	3784.877	3788.977	3756.172	3739.77	3657.758	3633.154
45	2788.425	2829.431	2792.526	2759.721	2669.507	2603.897	2587.494	2542.387
50	1994.544	1981.422	1958.458	1937.955	1920.733	1883.417	1858.813	1840.36
55	1326.962	1324.092	1329.013	1304.819	1287.186	1270.374	1254.381	1240.439
60	862.3614	863.5916	870.5626	851.2897	836.9375	832.4269	827.5061	816.4344
65	536.3618	538.412	544.563	533.9014	522.8297	515.4485	515.8586	510.1177
70	281.3029	278.0224	280.0727	274.3318	270.6413	271.8714	278.0224	280.0727
75	122.1986	117.2779	116.4578	115.2276	114.8175	117.2779	120.5584	120.5584
80	31.16475	29.93456	28.29431	27.88425	28.29431	29.5245	30.34463	31.57481
85	4.100625	4.100625	3.690562	3.690562	3.690562	3.2805	3.690562	3.690562
90	1.64025	1.64025	2.050313	2.050313	2.050313	1.64025	2.050313	2.050313

-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	14790.95	14807.36	14811.46	14840.16	14844.26	14860.67	14889.37	14881.17
5	14569.52	14569.52	14483.41	14442.4	14384.99	14302.98	14233.27	14134.85
10	13708.39	13614.08	13548.47	13499.26	13466.45	13437.75	13286.03	13154.81
15	12375.69	12256.77	12072.24	11912.32	11719.59	11637.57	11485.85	11272.62
20	10284.37	10239.26	10116.24	10013.73	9907.11	9862.003	9702.079	9497.048
25	8024.923	7983.917	7979.816	7885.501	7709.175	7561.553	7442.634	7331.917
30	6200.145	6167.34	6109.931	6019.718	5941.806	5900.799	5847.491	5765.479
35	4756.725	4654.209	4625.505	4596.801	4551.694	4522.989	4432.776	4358.964
40	3547.041	3526.538	3493.733	3526.538	3465.028	3403.519	3358.412	3333.808
45	2542.387	2530.086	2509.583	2493.18	2521.885	2542.387	2525.985	2476.778
50	1811.656	1822.728	1823.958	1830.109	1826.418	1816.987	1807.966	1773.11
55	1228.547	1224.447	1231.828	1240.439	1233.058	1244.54	1249.05	1213.375
60	809.4634	808.2332	818.4847	817.2546	813.564	829.1464	831.1967	815.2043
65	506.8372	510.1177	513.8083	512.168	515.4485	523.2397	526.1102	519.5492
70	281.3029	283.7632	287.0437	286.2236	292.7846	292.7846	296.0651	293.6048
75	124.659	128.7596	131.22	133.2703	138.1911	139.8313	138.6011	137.781
80	34.03519	34.85531	36.49556	38.13581	38.54588	38.95594	39.366	39.366
85	3.690562	3.2805	3.2805	3.2805	3.2805	3.2805	2.870438	2.870438
90	1.64025	1.64025	1.64025	1.64025	1.64025	1.230188	1.230188	1.230188

-以下空白-

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	14913.97	14905.77	14905.77	14909.87	14909.87	14938.58	14950.88	14950.88
5	14052.84	13970.83	13913.42	13860.11	13806.8	13769.9	13724.79	13675.58
10	12978.48	12781.65	12646.33	12576.62	12519.21	12457.7	12441.3	12445.4
15	11161.9	11055.28	10997.88	10985.58	10973.27	10878.96	10784.64	10760.04
20	9296.117	9099.287	9045.979	8935.263	8877.853	8865.552	8894.256	8939.362
25	7258.106	7233.502	7229.401	7180.194	7122.786	7094.081	7126.886	7098.182
30	5658.863	5621.957	5572.75	5539.944	5507.14	5498.938	5511.24	5523.542
35	4326.16	4334.36	4330.26	4326.16	4330.26	4313.858	4293.354	4268.75
40	3313.305	3317.406	3284.601	3264.097	3251.796	3231.292	3239.494	3264.097
45	2378.363	2349.658	2353.759	2361.96	2337.356	2345.557	2320.954	2304.551
50	1736.615	1725.953	1708.73	1702.99	1675.105	1681.256	1678.386	1687.407
55	1173.599	1167.858	1164.578	1161.707	1153.506	1147.355	1149.405	1148.585
60	786.4999	775.8383	767.637	761.4861	757.3854	752.4647	756.9753	760.2559
65	498.636	489.2046	481.4134	478.953	478.543	474.4423	472.8021	471.5719
70	284.5834	277.2022	271.4614	272.2815	270.6413	269.4111	266.1306	267.3607
75	134.5005	129.9898	125.8892	124.659	123.0188	123.0188	122.1986	123.8389
80	38.95594	37.31569	35.26538	34.03519	33.62513	33.21506	33.21506	34.44525
85	2.870438	2.460375	2.460375	2.460375	2.460375	2.460375	2.460375	2.870438
90	1.230188	0.820125	1.230188	1.230188	1.230188	0.820125	1.230188	0.820125

-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	14967.28	14979.58	14954.98	14959.08	14963.18	14975.48	14971.38	14971.38
5	13663.28	13626.38	13614.08	13560.77	13556.67	13527.96	13511.56	13511.56
10	12490.5	12515.11	12453.6	12392.09	12330.58	12285.47	12273.17	12252.67
15	10792.84	10850.25	10899.46	10903.56	10895.36	10985.58	11088.09	11133.2
20	9033.677	9205.903	9312.519	9382.229	9410.935	9406.834	9439.639	9472.444
25	7089.981	7122.786	7143.289	7249.905	7348.32	7475.439	7557.452	7557.452
30	5515.34	5572.75	5626.058	5609.655	5658.863	5679.366	5703.969	5777.781
35	4248.248	4219.543	4227.745	4268.75	4301.556	4367.166	4436.876	4440.977
40	3227.192	3218.99	3259.997	3276.399	3301.003	3329.708	3280.5	3264.097
45	2329.155	2402.966	2443.972	2427.57	2390.664	2366.061	2386.564	2415.268
50	1690.688	1712.421	1735.794	1764.089	1762.039	1742.356	1722.673	1717.342
55	1138.744	1161.707	1198.203	1187.131	1173.599	1168.268	1174.009	1168.678
60	768.8672	784.4496	799.2118	793.4709	779.9388	766.8169	765.9968	762.3062
65	478.1329	493.3052	501.5065	496.5857	482.6436	474.0323	471.9819	468.7014
70	270.2312	275.972	279.2526	275.1519	270.6413	265.3105	263.6702	262.44
75	125.0691	127.5294	128.3496	126.7093	125.0691	123.0188	120.9684	117.2779
80	35.26538	35.67544	35.67544	34.44525	33.62513	32.805	32.39494	30.75469
85	2.870438	2.870438	3.2805	2.870438	2.870438	3.690562	3.2805	3.2805
90	0.820125	0.820125	0.820125	1.230188	1.230188	1.230188	1.230188	1.230188

-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	14971.38	14971.38	14975.48	14987.78	14979.58	15004.19	14987.78	15000.09
5	13527.96	13540.26	13585.37	13642.78	13691.99	13782.2	13810.91	13868.31
10	12252.67	12305.98	12355.18	12400.29	12494.6	12613.52	12765.25	12859.56
15	11157.8	11157.8	11145.5	11190.61	11264.42	11354.63	11481.75	11555.56
20	9505.249	9562.657	9628.268	9726.683	9804.595	9866.104	9956.317	10054.73
25	7553.351	7664.068	7758.382	7778.885	7819.892	7787.087	7815.791	7869.1
30	5818.787	5794.183	5855.692	5921.302	5974.61	6056.624	6142.736	6216.547
35	4473.782	4506.587	4502.486	4547.593	4547.593	4559.895	4613.203	4678.813
40	3280.5	3309.204	3350.211	3391.217	3473.229	3501.934	3555.242	3563.443
45	2427.57	2423.469	2435.771	2415.268	2476.778	2538.287	2595.696	2628.5
50	1713.651	1726.363	1737.845	1748.506	1797.304	1832.569	1840.36	1864.554
55	1168.678	1168.678	1173.189	1178.52	1184.26	1218.296	1253.151	1242.079
60	763.9465	761.4861	768.4571	770.0974	781.9891	801.2621	821.7653	822.9954
65	467.0612	463.7807	467.4713	466.6511	470.3417	483.0536	498.226	498.636
70	259.5696	255.879	251.7784	248.0878	246.4476	248.9079	253.0086	255.0589
75	114.4074	111.537	107.4364	104.5659	102.5156	101.2854	101.2854	102.9257
80	29.11444	27.47419	26.65406	25.01381	24.60375	23.78362	23.78362	24.19369
85	3.2805	3.2805	3.690562	3.690562	3.690562	3.690562	3.2805	3.690562
90	1.230188	1.230188	0.820125	1.230188	1.230188	0.820125	0.820125	1.230188

-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	14975.48	14971.38	14926.28	14934.48	14918.07	14909.87	14881.17	14885.27
5	13958.53	13987.23	14044.64	14106.15	14196.36	14282.48	14356.29	14479.31
10	12970.28	13023.58	13097.4	13195.81	13269.62	13421.35	13605.87	13806.8
15	11612.97	11699.08	11830.3	12047.64	12289.57	12457.7	12605.32	12736.54
20	10136.75	10206.46	10325.37	10444.29	10596.01	10825.65	11014.28	11174.2
25	8053.627	8262.759	8414.482	8516.998	8627.716	8828.646	9045.979	9156.695
30	6253.453	6302.661	6421.579	6540.497	6643.013	6770.132	6905.453	6987.465
35	4793.63	4875.643	4945.354	5043.769	5133.983	5220.095	5277.504	5355.417
40	3592.148	3649.556	3702.864	3735.669	3784.877	3834.084	3928.399	3981.707
45	2612.098	2595.696	2657.205	2726.916	2767.922	2829.431	2841.733	2866.337
50	1878.086	1880.137	1878.496	1918.682	1939.186	1978.552	2020.378	2051.953
55	1234.698	1257.252	1276.935	1291.287	1315.891	1342.545	1366.738	1390.522
60	818.4847	821.3552	832.0168	838.9879	856.6205	871.7928	891.4759	911.569
65	491.6649	491.2549	504.3769	513.8083	523.2397	536.3618	549.0737	562.1957
70	255.0589	261.2098	268.5909	280.0727	289.5041	296.8853	303.8563	309.5972
75	104.5659	107.8464	112.7672	119.3282	125.0691	129.5798	137.3709	141.8816
80	24.60375	25.83394	28.29431	29.93456	31.57481	34.03519	36.49556	38.13581
85	3.2805	3.690562	4.100625	3.690562	3.690562	3.690562	3.690562	3.690562
90	1.230188	1.230188	1.64025	1.64025	1.230188	1.64025	1.230188	1.230188

-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	14852.46	14872.97	14844.26	14856.56	14848.36	14823.76	14811.46	14799.16
5	14561.32	14684.34	14774.55	14868.87	14959.08	15012.39	15082.1	15143.61
10	14114.35	14302.98	14618.73	14897.57	15012.39	15123.11	15201.02	15274.83
15	12900.57	13232.72	13523.86	13741.19	13806.8	13983.13	14114.35	14348.09
20	11309.52	11535.06	11777	11904.11	11957.42	12035.33	12158.35	12203.46
25	9230.507	9259.211	9316.62	9353.525	9369.929	9492.946	9607.765	9579.061
30	7028.471	7077.679	7204.798	7217.1	7208.899	7290.912	7282.71	7319.616
35	5367.718	5355.417	5437.429	5482.536	5531.743	5552.246	5580.951	5626.058
40	4088.323	4112.927	4145.732	4158.034	4190.839	4227.745	4219.543	4190.839
45	2895.041	3038.563	3067.268	3063.167	3046.764	3009.859	3026.261	3071.368
50	2129.044	2177.432	2170.871	2170.871	2157.749	2167.59	2157.749	2185.633
55	1410.615	1446.29	1471.714	1456.132	1424.967	1441.78	1454.082	1459.823
60	932.4821	960.3664	975.5387	972.2582	956.2657	949.7048	951.345	951.345
65	574.9076	599.5114	615.5038	615.5038	599.1013	587.6196	586.3893	586.7994
70	317.7984	329.6902	334.611	336.2513	332.9707	328.8701	327.2299	329.6902
75	146.8024	150.493	153.7734	153.3634	153.3634	152.1332	150.493	150.903
80	40.18612	41.41631	42.6465	44.28675	44.28675	43.46663	42.6465	42.6465
85	4.100625	3.690562	3.690562	3.2805	3.2805	2.870438	2.870438	3.2805
90	1.230188	1.230188	1.230188	1.64025	1.230188	1.230188	0.820125	1.230188

-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	14745.85
5	15155.91
10	15406.05
15	14573.62
20	12281.37
25	9640.569
30	7356.521
35	5650.661
40	4244.147
45	3059.066
50	2184.813
55	1469.664
60	950.9349
65	584.7491
70	329.6902
75	150.493
80	42.6465
85	2.870438
90	0.820125

-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	107A-01	角度規	ACUANGLE A-300
2	99E-05	數位電力計	YOKOGAWA WT210 (91K116100)
3	99E-08	數位電力計	YOKOGAWA WT210 (91K539455)
4	99E-17	AC Power Source	APC AFC-5KW
5	990-01	立式大型分佈光度計	浙大三色 GMS-2000
6	990-22	快速光譜輻射分析儀	浙大三色 SPR-3000
7	990-23	2π 積分球	浙大三色
8	1080-43	測光標準燈 DC 22.3V/100W	通尚光電(SL810007)
9	103T-14	數字型溫濕度記錄器	TANDD(TR-72UI/F8043A00)
			測試人員：劉醇澤

- 以下空白 -