

Test Report for Luminous Intensity Distributions

Test Standard : CIE 70 (1987) 、 CIE 84 (1989)

Date of Receipt : 2019 / 01 / 15

Test Date : 2019 / 01 / 15 ~ 2019 / 03 / 19

1. Issue Date for test report : 2019 / 03 / 25
2. Report No : 19011507
3. Total pages : 20
4. Test report without steel stamp is not valid, and shall not be reproduced except in full.
5. Test sample is not sampling by laboratory, test result relate only to the items tested.
6. Test report is not responsible for advertisement or promotion for products.

Approved Signatory:



Test Report

Information for test items

Applicant : CoolLED Corp

Applicant address : 5F.-3, No.83, Sec. 2, Gongdao 5th Rd., East Dist., Hsinchu
City 30070, Taiwan, R.O.C.

Manufacturer : CoolLED Corp

Manufacturer address : 5F.-3, No.83, Sec. 2, Gongdao 5th Rd., East Dist.,
Hsinchu City 30070, Taiwan, R.O.C.

Product name : 8500lm LED High-bay

Trademark or brand name : CoolLED

Product model number : C30850C-301

Rated input voltage(V) : 100~277

Rated input frequency(Hz) : 50 / 60

Rated input power(W) : 60

Brand / model of controller : MEAN WELL / HBG-60-1400

Outward appearance size : Φ 346 mm 、 H 259 mm

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Test Content

Test Condition

Temperature (°C)	24.7
Humidity (% RH)	59.6
γ Axis measurement of angles (°)	5
C Axis measurement of angles (°)	5

Electrical Test

Test item	Test Result
Voltage(V)	220.0
Frequency(Hz)	60
Current (A)	0.279
Watt (W)	59.7
Power factor (PF)	0.973

Luminosity Test

Test item	Test Result
Total luminous flux of luminaires (lm)	7668.7
Initial luminaires efficiency(lm/W)	128.5
Central intensity (cd)	14408.8
Max intensity (cd)	14471.7
Angle for max intensity (°)	C : 150.0 γ : 0.0
Beam Angle (50% I _{max})	C0_180 Left=13.8 Right=14.2
	C90_270 Left=13.9 Right=14.1
Color temperature(K)	5038
Chromaticity Coordinates	x : 0.3446 y : 0.3569
Rendering Index(Ra)	82.4
R9	4
UGR , Unified Glare Rating	Viewing direction at right angles to lamp axis
	18.5
	Viewing direction parallel to lamp axis
	18.5

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Diagram for luminous intensity distribution I

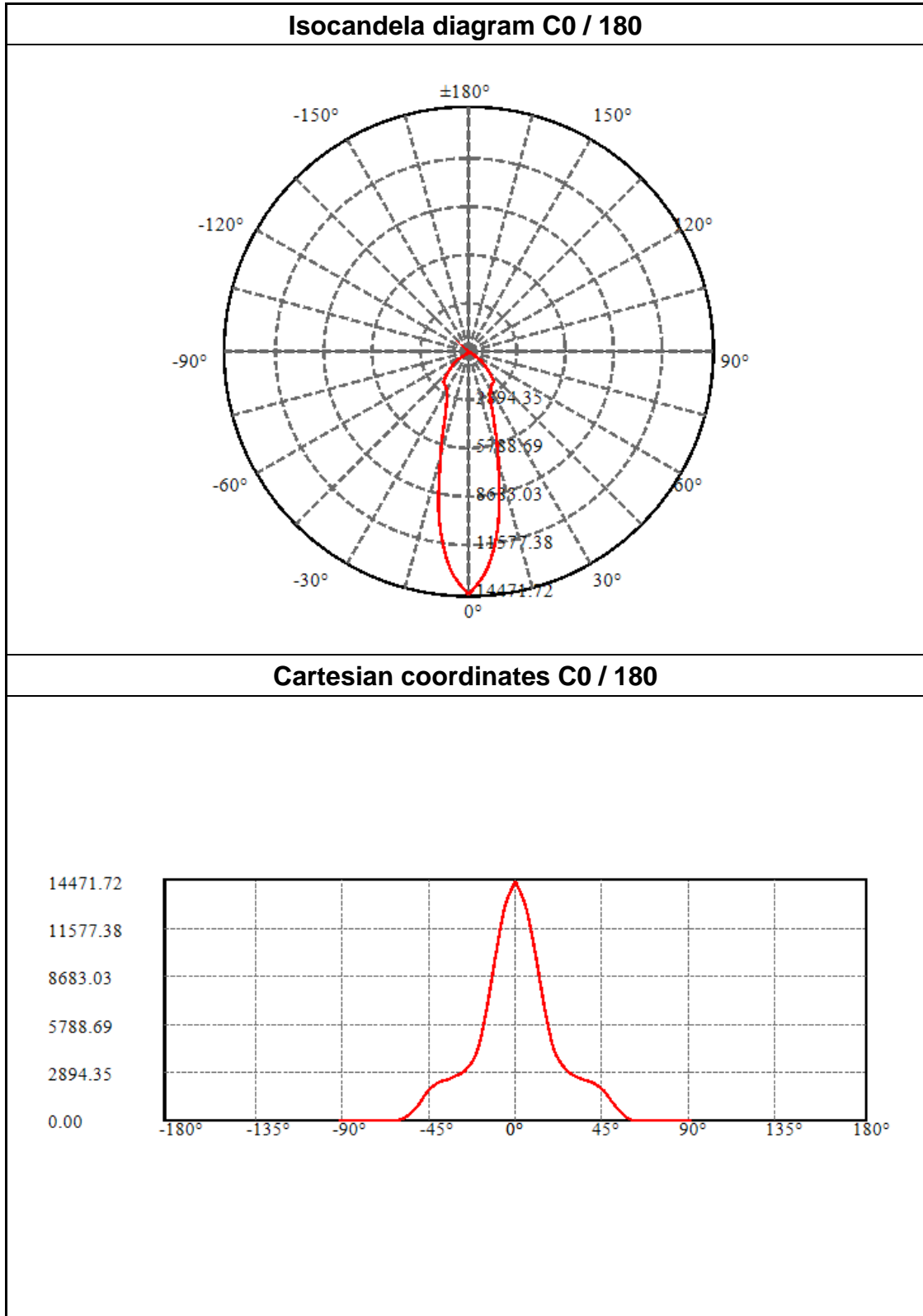


Diagram for luminous intensity distribution II

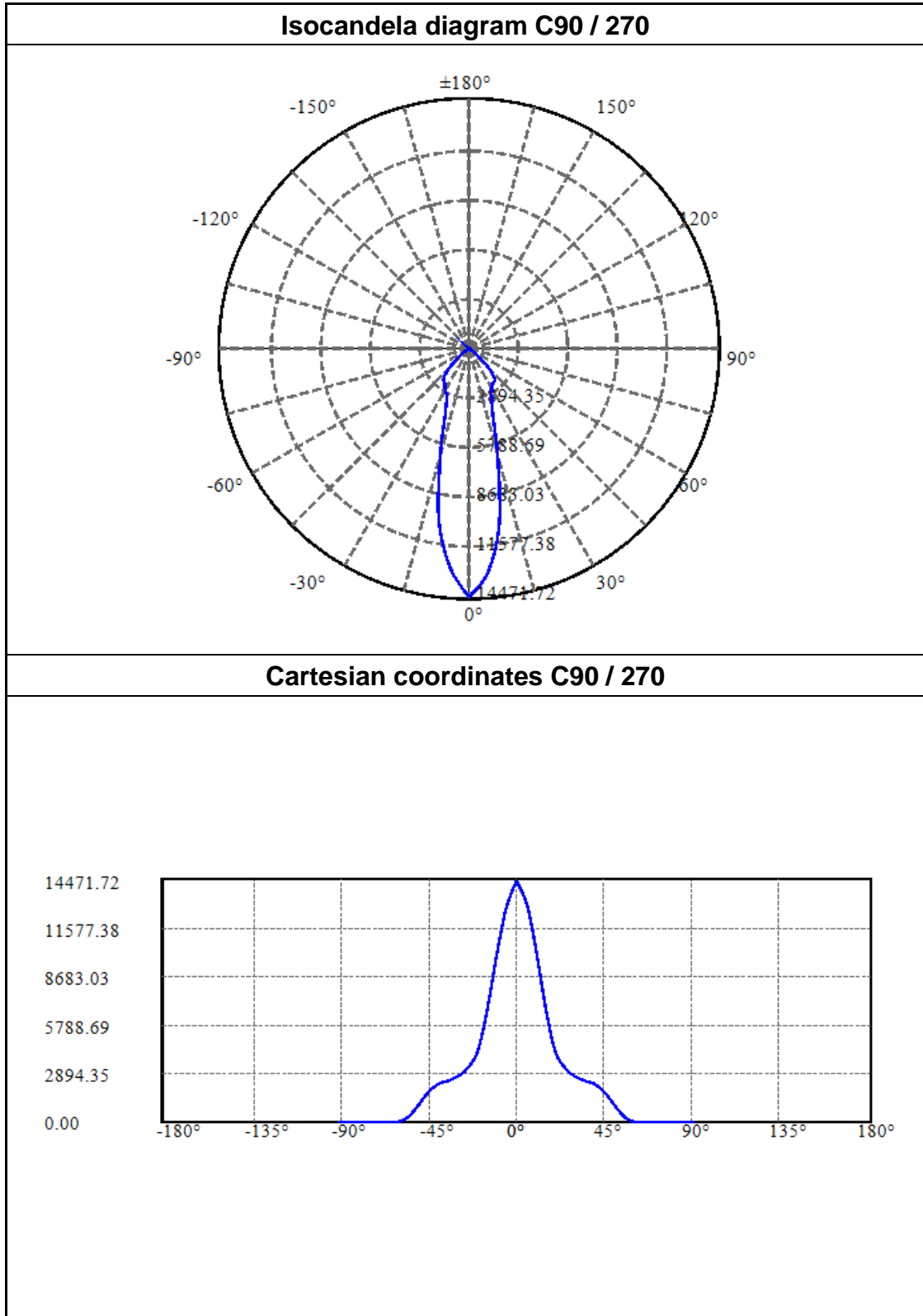
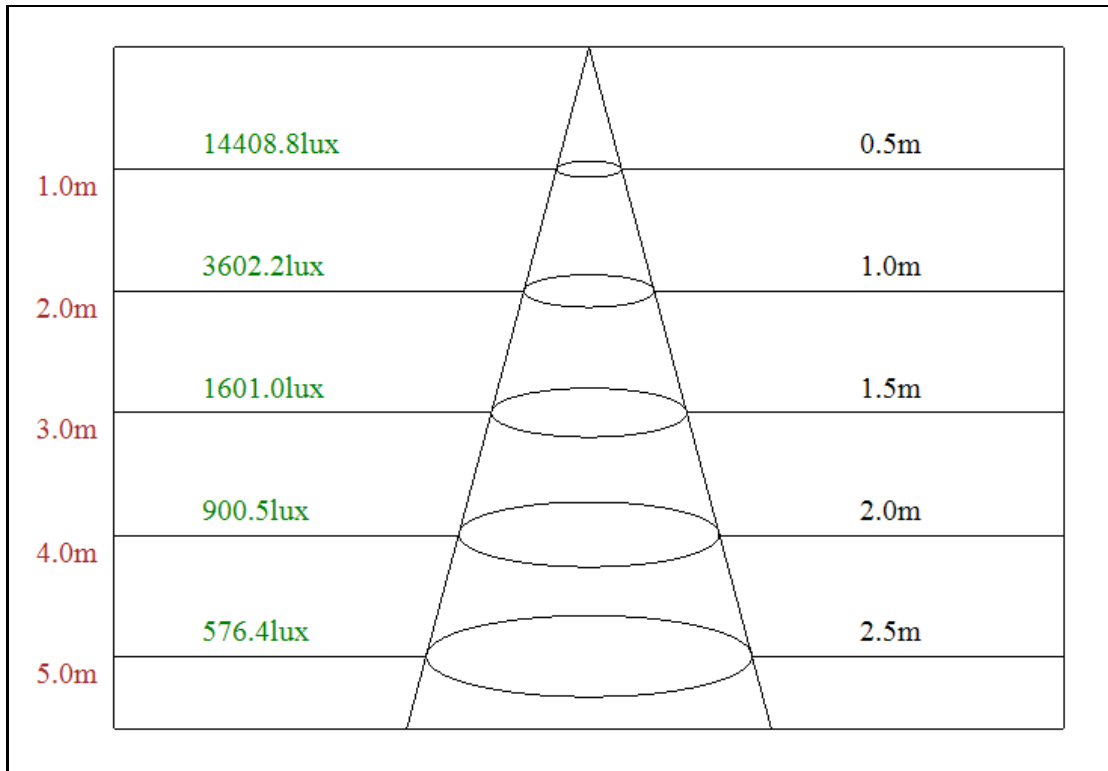


Diagram for illumination distance



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Test Results

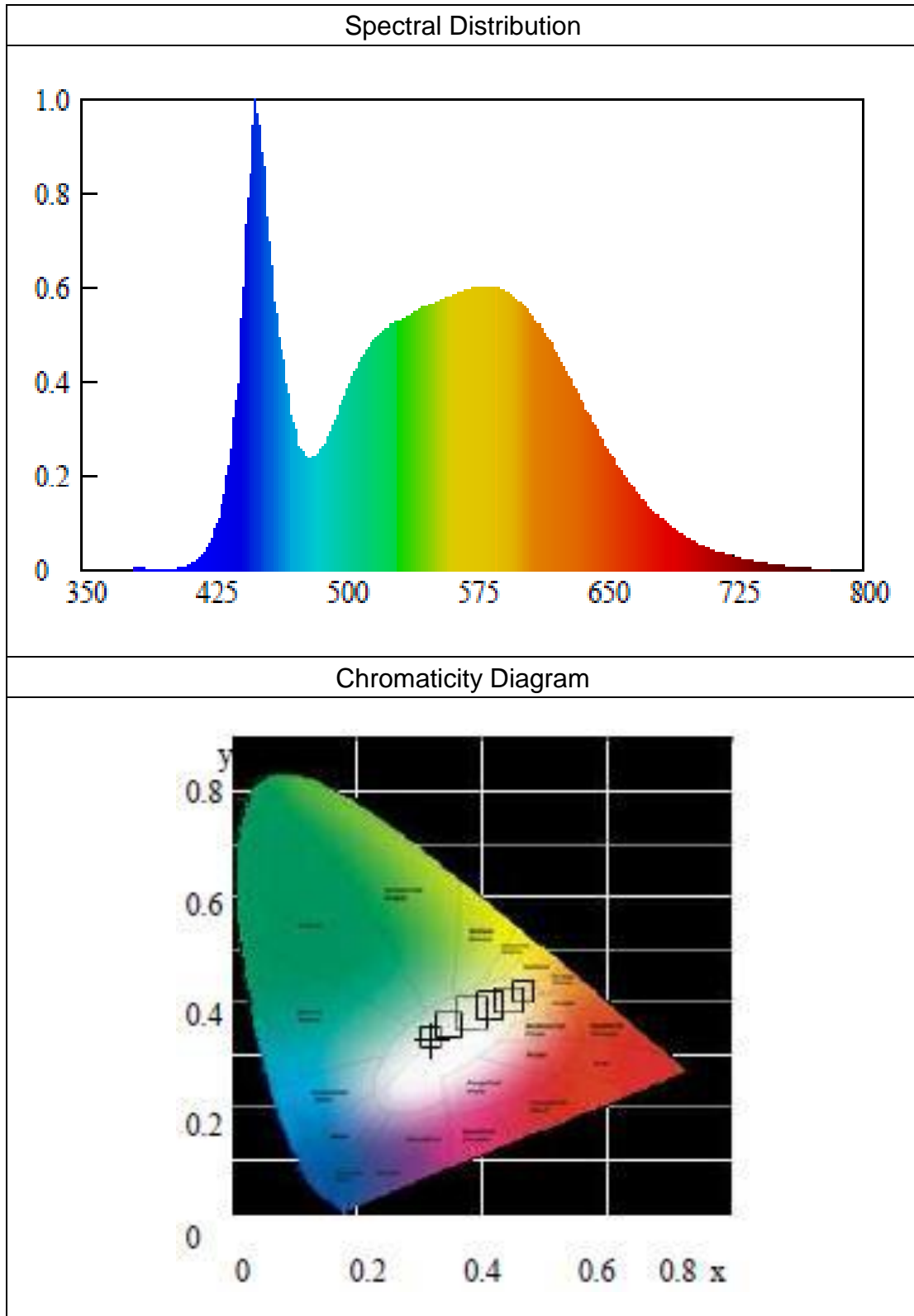


Photo for test items

The appearance of photo



The appearance of photo

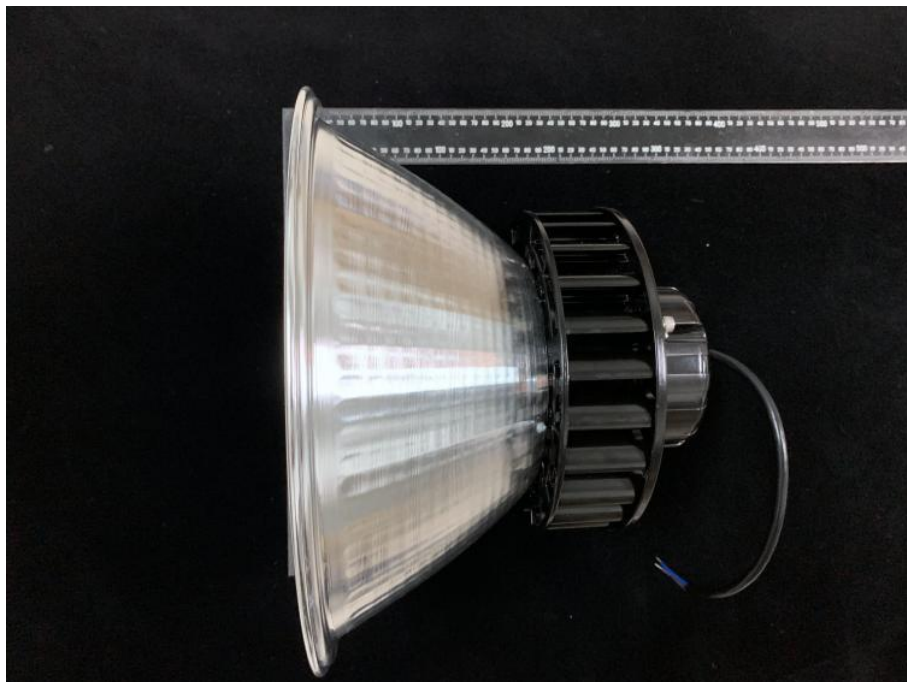
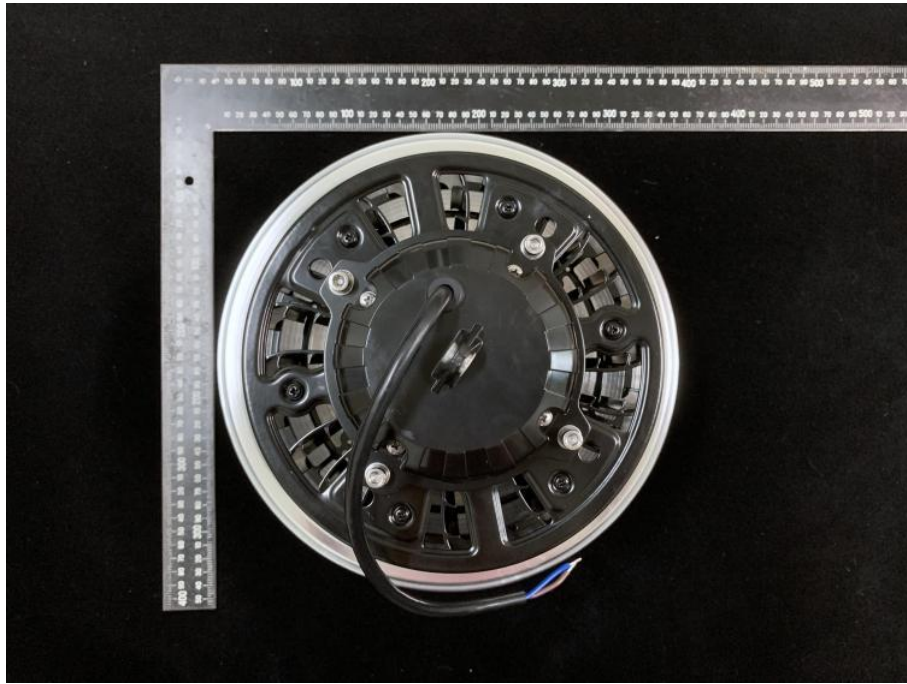
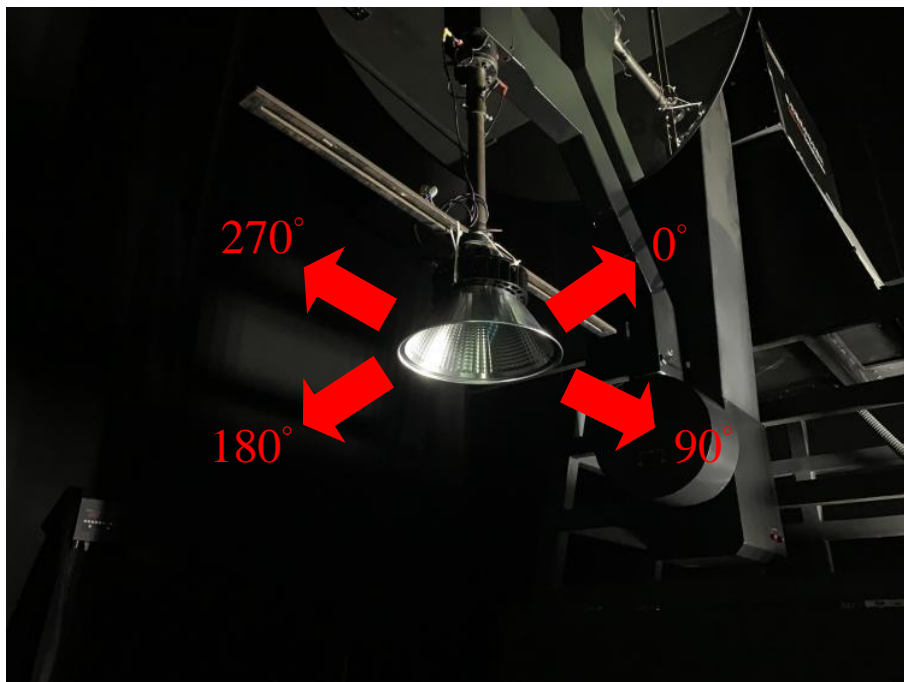


Photo for test items

The appearance of photo



Direction for luminaire position in goniophotometer



Data for luminous intensity (1)

Intensity data(cd)

$\gamma/C(^{\circ})$	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0
0	14408.75	14437.05	14429.98	14451.21	14444.13	14429.98	14415.83	14415.83
5	12855.66	12855.66	12862.73	12904.48	12918.63	12883.25	12904.48	12939.86
10	10268.82	10297.12	10318.35	10325.42	10345.94	10353.02	10325.42	10338.87
15	6593.044	6614.271	6620.639	6627.714	6614.271	6627.714	6620.639	6620.639
20	4217.058	4224.133	4231.209	4238.284	4224.133	4231.209	4195.831	4182.387
25	3152.18	3154.302	3148.642	3148.642	3130.953	3116.094	3109.019	3098.405
30	2668.209	2671.747	2678.115	2671.747	2658.303	2656.18	2654.765	2658.303
35	2419.147	2429.761	2424.101	2429.761	2438.252	2438.252	2440.374	2428.346
40	2235.89	2238.72	2238.012	2238.012	2233.059	2234.474	2252.164	2240.843
45	1754.041	1733.522	1729.984	1725.031	1746.258	1756.871	1760.409	1754.749
50	1064.17	1006.858	1050.727	1016.056	1025.962	1013.933	1018.886	1020.302
55	333.2607	346.7044	356.6102	347.412	320.5247	348.1195	337.5061	350.2422
60	6.36804	6.36804	6.36804	7.0756	7.0756	7.78316	7.78316	7.78316
65	3.5378	3.5378	4.24536	3.5378	4.24536	4.24536	4.24536	4.24536
70	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.83024
75	1.41512	0.70756	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512
80	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (2)

Intensity data(cd)

Page: 2 Total:10

$\gamma/C(^{\circ})$	40.0	45.0	50.0	55.0	60.0	65.0	70.0	75.0
0	14429.98	14422.9	14437.05	14422.9	14401.68	14380.45	14380.45	14380.45
5	12939.86	12890.33	12848.58	12862.73	12918.63	12932.78	12890.33	12897.4
10	10345.94	10360.09	10395.47	10367.17	10374.24	10331.79	10338.87	10338.87
15	6627.714	6614.271	6578.893	6571.817	6571.817	6557.666	6543.515	6529.363
20	4147.009	4154.084	4182.387	4161.16	4147.009	4147.009	4147.009	4125.782
25	3101.235	3092.745	3100.528	3096.99	3101.943	3104.773	3103.358	3111.849
30	2658.303	2666.086	2661.133	2657.595	2659.718	2648.397	2667.501	2675.284
35	2429.761	2434.006	2434.714	2431.176	2419.147	2437.544	2431.884	2433.299
40	2251.456	2253.579	2257.116	2239.427	2247.918	2257.116	2251.456	2236.597
45	1745.551	1737.06	1734.229	1748.381	1722.201	1735.645	1729.277	1732.107
50	998.3672	987.7538	1007.565	1017.471	1024.547	1016.056	983.5084	980.6782
55	345.9968	354.4875	355.1951	325.4776	325.4776	319.8171	325.4776	301.4206
60	7.78316	8.49072	8.49072	8.49072	8.49072	8.49072	8.49072	8.49072
65	4.95292	4.95292	4.95292	4.95292	4.95292	4.95292	4.95292	4.95292
70	2.83024	2.83024	2.83024	2.83024	2.83024	2.83024	2.83024	2.83024
75	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512
80	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (3)

Page: 3 Total:10

Intensity data(cd)	80.0	85.0	90.0	95.0	100.0	105.0	110.0	115.0
0	14380.45	14380.45	14387.52	14373.37	14394.6	14394.6	14401.68	14401.68
5	12946.93	12961.08	12939.86	12911.55	12897.4	12862.73	12855.66	12841.51
10	10304.2	10275.89	10282.97	10261.74	10233.44	10254.67	10233.44	10254.67
15	6522.289	6494.693	6501.769	6494.693	6459.315	6487.617	6480.542	6445.164
20	4132.858	4111.631	4104.556	4118.707	4125.782	4125.782	4111.631	4139.934
25	3102.651	3105.481	3109.019	3096.99	3109.019	3115.386	3119.632	3127.415
30	2660.426	2666.086	2660.426	2667.501	2673.869	2670.331	2662.548	2660.426
35	2419.147	2418.44	2429.761	2419.147	2434.714	2436.129	2439.667	2417.025
40	2235.89	2240.843	2241.55	2242.965	2240.843	2245.795	2246.503	2252.871
45	1727.861	1717.956	1719.371	1721.494	1725.739	1720.078	1732.814	1744.135
50	981.3857	999.0746	965.1118	975.0177	973.6026	953.0833	952.3757	942.4699
55	300.713	294.345	284.4391	286.5618	284.4391	287.9769	273.1182	254.014
60	8.49072	7.78316	7.78316	7.78316	7.78316	7.0756	7.0756	7.0756
65	4.95292	4.95292	4.95292	4.24536	4.24536	4.24536	4.24536	4.24536
70	2.83024	2.83024	2.83024	2.83024	2.12268	2.12268	2.12268	2.12268
75	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512
80	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (4)

Page: 4 Total:10

Intensity data(cd)	120.0	125.0	130.0	135.0	140.0	145.0	150.0	155.0
γ/C(°)	120.0	125.0	130.0	135.0	140.0	145.0	150.0	155.0
0	14401.68	14401.68	14408.75	14415.83	14437.05	14457.57	14471.72	14408.75
5	12784.9	12757.31	12757.31	12770.75	12799.05	12806.13	12799.05	12806.13
10	10254.67	10254.67	10233.44	10212.92	10163.39	10135.09	10107.49	10120.94
15	6459.315	6431.013	6396.342	6389.267	6382.191	6360.964	6375.116	6346.813
20	4111.631	4111.631	4111.631	4083.329	4090.405	4069.885	4076.961	4055.734
25	3111.849	3116.094	3110.434	3112.557	3098.405	3104.066	3104.066	3099.113
30	2671.039	2666.794	2658.303	2668.916	2669.624	2677.407	2664.671	2668.209
35	2431.884	2422.686	2430.469	2432.591	2445.327	2436.837	2420.563	2434.006
40	2251.456	2242.965	2242.965	2244.38	2238.012	2245.795	2236.597	2251.456
45	1739.89	1731.399	1700.267	1729.277	1703.804	1683.285	1713.003	1684.7
50	929.7338	948.1304	926.9036	924.0734	938.9321	956.6211	921.2432	925.4885
55	247.646	258.9669	260.3821	276.656	245.5233	249.0611	244.8158	245.5233
60	6.36804	6.36804	6.36804	6.36804	6.36804	6.36804	6.36804	5.66048
65	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378
70	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268
75	1.41512	1.41512	1.41512	0.70756	0.70756	1.41512	0.70756	0.70756
80	0.70756	0.70756	0.70756	0.70756	0	0.70756	0.70756	0.70756
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (5)

Page: 5 Total:10

Intensity data(cd)								
$\gamma/C(^{\circ})$	160.0	165.0	170.0	175.0	180.0	185.0	190.0	195.0
0	14352.15	14324.55	14282.1	14310.4	14380.45	14415.83	14429.98	14451.21
5	12820.28	12855.66	12883.25	12862.73	12862.73	12841.51	12806.13	12841.51
10	10065.04	10057.97	10065.04	10015.51	9987.917	10002.07	9959.614	9966.69
15	6360.964	6353.889	6325.586	6318.511	6318.511	6290.916	6304.359	6297.992
20	4055.734	4048.658	4041.583	4006.205	4020.356	3984.978	3999.129	3977.902
25	3091.33	3097.698	3082.839	3071.518	3071.518	3063.735	3059.489	3055.951
30	2684.483	2669.624	2675.284	2657.595	2663.963	2663.256	2652.643	2663.256
35	2445.327	2447.45	2450.988	2448.865	2438.959	2448.865	2451.695	2458.063
40	2270.56	2258.531	2254.286	2263.484	2270.56	2269.145	2265.607	2276.928
45	1681.87	1676.21	1671.964	1671.964	1673.379	1666.304	1689.653	1684.7
50	924.7809	949.5455	950.9606	936.1019	912.0449	906.3844	910.6297	923.3658
55	250.4762	266.7501	263.2123	271.703	278.7786	278.7786	288.6845	303.5432
60	5.66048	5.66048	5.66048	5.66048	5.66048	6.36804	6.36804	6.36804
65	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378
70	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268
75	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	1.41512
80	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (6)

Intensity data(cd)		Page: 6 Total:10							
$\gamma/C(^{\circ})$	200.0	205.0	210.0	215.0	220.0	225.0	230.0	235.0	
0	14437.05	14408.75	14380.45	14338.7	14303.33	14289.17	14289.17	14275.02	
5	12841.51	12848.58	12791.98	12791.98	12799.05	12799.05	12799.05	12827.36	
10	9980.841	9959.614	9952.539	9924.236	9917.161	9924.236	9924.236	9931.313	
15	6290.916	6290.916	6297.992	6297.992	6311.435	6304.359	6311.435	6339.738	
20	3984.978	3984.978	4027.431	4034.507	4034.507	4048.658	4055.734	4041.583	
25	3070.811	3078.594	3087.084	3093.452	3109.726	3121.047	3118.217	3120.34	
30	2665.378	2668.916	2671.039	2671.747	2666.794	2691.558	2680.945	2687.313	
35	2455.941	2457.356	2458.771	2453.111	2450.988	2443.205	2454.526	2458.771	
40	2261.362	2273.39	2293.91	2277.636	2260.654	2265.607	2279.758	2279.758	
45	1679.04	1672.672	1683.285	1685.408	1676.21	1677.625	1691.068	1676.21	
50	939.6396	941.7623	948.838	950.9606	952.3757	962.2816	953.7909	972.895	
55	290.0996	267.4577	270.9955	278.0711	283.024	302.1281	287.9769	307.081	
60	6.36804	6.36804	6.36804	7.0756	7.0756	7.0756	7.0756	7.0756	
65	3.5378	4.24536	4.24536	4.24536	4.24536	4.24536	4.24536	4.24536	
70	2.12268	2.12268	2.12268	2.12268	2.83024	2.83024	2.83024	2.83024	
75	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	
80	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	
85	0	0	0	0	0	0	0	0	
90	0	0	0	0	0	0	0	0	

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Data for luminous intensity (7)

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Intensity data(cd)	240.0	245.0	250.0	255.0	260.0	265.0	270.0	275.0
γ/C(°)	240.0	245.0	250.0	255.0	260.0	265.0	270.0	275.0
0	14253.8	14275.02	14317.48	14359.22	14359.22	14366.3	14373.37	14366.3
5	12827.36	12721.93	12700.7	12665.32	12672.4	12658.25	12630.65	12595.28
10	9952.539	9952.539	9938.388	9952.539	9945.463	9931.313	9987.917	9994.993
15	6339.738	6346.813	6368.04	6353.889	6368.04	6353.889	6360.964	6360.964
20	4069.885	4076.961	4097.48	4118.707	4139.934	4154.084	4154.084	4154.084
25	3120.34	3138.736	3134.491	3132.368	3147.227	3152.18	3155.01	3155.718
30	2704.294	2688.021	2688.728	2702.172	2706.417	2701.464	2697.219	2700.049
35	2463.724	2470.092	2467.969	2463.016	2470.092	2460.894	2453.111	2447.45
40	2276.22	2284.711	2280.466	2283.296	2289.664	2283.296	2279.051	2285.419
45	1700.267	1706.635	1722.909	1725.739	1728.569	1712.295	1737.06	1734.229
50	953.7909	969.3572	953.0833	941.7623	967.9421	986.3387	991.2916	979.263
55	294.345	292.9298	293.6374	289.3921	296.4677	295.0525	302.8357	297.1752
60	7.0756	7.0756	7.0756	7.0756	7.0756	7.0756	7.0756	7.0756
65	4.24536	4.95292	4.24536	4.24536	4.24536	4.24536	4.24536	4.24536
70	2.83024	2.83024	2.83024	2.83024	2.83024	2.83024	2.12268	2.12268
75	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512	1.41512
80	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (8)

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Intensity data(cd)	280.0	285.0	290.0	295.0	300.0	305.0	310.0	315.0
$\gamma/C(^{\circ})$	280.0	285.0	290.0	295.0	300.0	305.0	310.0	315.0
0	14352.15	14352.15	14366.3	14387.52	14401.68	14394.6	14387.52	14338.7
5	12574.05	12602.35	12637.73	12665.32	12637.73	12644.8	12637.73	12644.8
10	9959.614	9987.917	10002.07	9994.993	10022.59	10022.59	10057.97	10100.42
15	6389.267	6368.04	6389.267	6375.116	6382.191	6389.267	6409.786	6416.862
20	4161.16	4195.831	4188.755	4202.906	4217.058	4188.755	4202.906	4195.831
25	3161.378	3163.501	3174.114	3161.378	3176.944	3167.746	3167.038	3161.378
30	2687.313	2697.926	2692.973	2690.851	2706.417	2690.851	2690.851	2707.832
35	2456.648	2457.356	2459.479	2459.479	2456.648	2460.186	2450.988	2468.677
40	2269.853	2274.098	2264.192	2265.607	2276.22	2272.683	2254.286	2252.164
45	1733.522	1730.692	1759.702	1764.655	1775.268	1782.344	1785.174	1763.24
50	980.6782	994.8293	988.4613	999.7823	985.6311	1006.15	1012.518	1013.933
55	294.345	301.4206	314.8642	286.5618	285.8542	287.9769	310.6188	302.1281
60	7.0756	6.36804	6.36804	6.36804	6.36804	6.36804	6.36804	6.36804
65	4.24536	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378
70	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268
75	1.41512	0.70756	0.70756	1.41512	0.70756	0.70756	0.70756	0.70756
80	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (9)

Intensity data(cd) Page: 9 Total:10

$\gamma/C(^{\circ})$	320.0	325.0	330.0	335.0	340.0	345.0	350.0	355.0
0	14331.63	14345.78	14401.68	14394.6	14415.83	14415.83	14408.75	14408.75
5	12707.78	12700.7	12693.63	12700.7	12743.16	12784.9	12791.98	12841.51
10	10120.94	10177.54	10184.62	10198.77	10212.92	10275.89	10247.59	10297.12
15	6445.164	6423.938	6452.24	6487.617	6494.693	6522.289	6550.591	6585.968
20	4209.982	4202.906	4209.982	4202.906	4202.906	4202.906	4217.058	4231.209
25	3173.407	3168.454	3157.84	3164.916	3152.887	3152.887	3147.934	3149.35
30	2697.219	2696.511	2680.945	2673.162	2685.19	2676.699	2684.483	2668.209
35	2450.28	2447.45	2442.497	2446.035	2444.62	2438.959	2433.299	2435.421
40	2258.531	2262.777	2250.041	2249.333	2245.088	2238.012	2246.503	2238.012
45	1775.268	1773.145	1771.73	1778.806	1773.853	1776.683	1763.947	1763.24
50	1008.273	1016.056	1015.349	1010.396	1016.056	1017.471	995.5369	1052.142
55	312.034	310.6188	320.5247	306.3735	314.8642	335.3835	320.5247	333.2607
60	6.36804	6.36804	6.36804	6.36804	6.36804	6.36804	6.36804	6.36804
65	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378	3.5378
70	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268	2.12268
75	0.70756	0.70756	0.70756	0.70756	0.70756	0.70756	1.41512	1.41512
80	0	0.70756	0	0.70756	0.70756	0.70756	0.70756	0
85	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0

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Data for luminous intensity (10)

Intensity data(cd)

Page: 10 Total:10

$\gamma/C(^{\circ})$	360.0
0	14408.75
5	12855.66
10	10268.82
15	6593.044
20	4217.058
25	3152.18
30	2668.209
35	2419.147
40	2235.89
45	1754.041
50	1064.17
55	333.2607
60	6.36804
65	3.5378
70	2.12268
75	1.41512
80	0.70756
85	0
90	0

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Equipment list and testing engineer for test

Item	Equipment No	Equipment	Manufacturer / Type / Series No
1	107A-01	Magnetic angle locator	ACUANGLE A-300
2	99E-05	Digital power meter	YOKOGAWA WT210 (91K116100)
3	99E-08	Digital power meter	YOKOGAWA WT210 (91K539455)
4	99E-17	AC Power Source	APC AFC-5KW
5	99O-01	Goniophotometer System	Sensing GMS-2000
6	99O-22	Spectroradiometer (2π)	Sensing SPR-3000
7	99O-23	Integrating sphere (2π)	Sensing
8	104O-29	Photometric standard lamp 110V/100W	Sensing (S11030003)
9	103T-14	Temperature and humidity records	TANDD(TR-72UI/F8043A00)
Testing engineer : Chun-Tse Liu			

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