

## R854 WNL (CRI90 1050mA 70D)

Luminaire Name: R854 WNL (CRI90 1050mA 70D)

Report NO.: 01313217031106A

Test NO.:

Lamp: CITIZEN CLU038-1208C4-403H5M3 1050mA

Sum Lumens: 4462 lm

Number of Lamps: 1

Diameter: 140mm

Length: -140mm

Photometric Type: Type C

Voltage: 230.48 V

Current: 0.1861 A

Power: 41.483 W

Power Factor: 0.9674

Ballast Type: PHILIPS XITANIUM 44W 0.9 1.05A 42 I 230V

Width: -140mm

Height: 100mm

Optical Component: 70D Reflector DC(V:36.09V I:1.015A P:38.21W)

## Photometric Results

Lumens: 3899.47 lm

Efficiency: 87.39%

Central Intensity: 2880.922cd

Maximum Intensity: 3001.373cd

Beam Angle(10%): Left: -46.7 Right:58.5

Maximum s/h: C0\_180: 0.6 C90\_270: 0.6

Effective Luminous Flux: 3701.05 lm

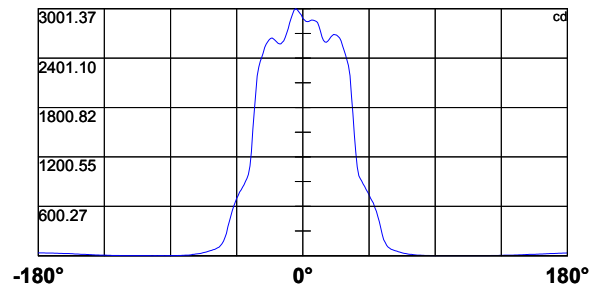
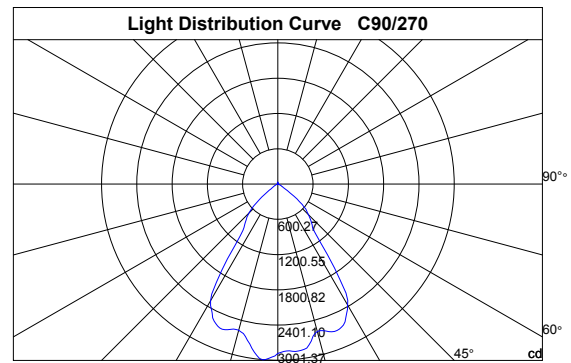
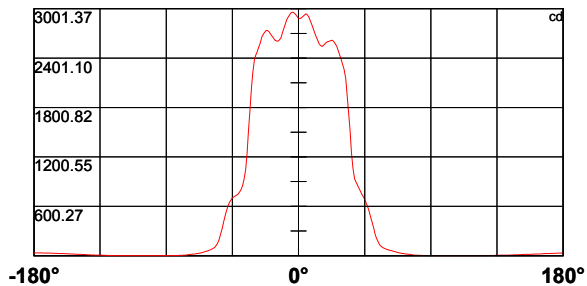
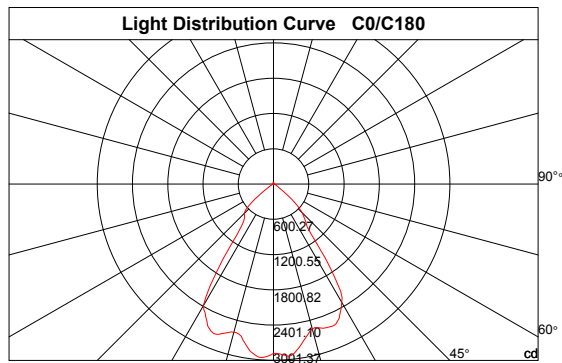
Angle of maximum intensity: C:270.0 G:5.0

Half Peak Side Angle(50%): Left: -29.1 Right:39.9

Up Flux Rate: 0.73%

Down Flux Rate: 86.67%

CIE Classification: Direct



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**Intensity Data [cd]**

C\γ	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
0.0	2880.9	2882.5	2890.2	2908.9	2925.6	2939.2	2928.5	2899.6	2854.0	2809.7
30.0	2880.9	2865.1	2862.9	2866.8	2874.9	2886.8	2889.3	2876.6	2854.0	2828.0
60.0	2880.9	2857.4	2842.1	2836.9	2839.9	2846.3	2848.9	2842.9	2840.4	2835.2
90.0	2880.9	2865.5	2848.9	2843.3	2845.9	2856.5	2863.4	2862.1	2857.4	2848.0
120.0	2880.9	2863.4	2864.6	2872.7	2889.8	2914.9	2918.3	2908.1	2893.2	2865.5
150.0	2880.9	2885.5	2906.0	2922.6	2937.1	2938.3	2924.7	2897.9	2866.8	2831.4
180.0	2880.9	2908.9	2931.5	2949.0	2958.4	2954.1	2928.5	2901.3	2870.2	2818.6
210.0	2880.9	2919.6	2944.3	2958.8	2972.0	2968.1	2935.8	2907.7	2863.4	2791.8
240.0	2880.9	2921.3	2944.7	2968.1	2983.1	2983.1	2959.2	2925.6	2862.1	2806.7
270.0	2880.9	2923.8	2946.0	2968.6	2993.7	3001.4	2983.9	2936.6	2885.5	2830.6
300.0	2880.9	2895.7	2929.0	2946.4	2965.6	2969.9	2952.4	2915.8	2867.2	2814.8
330.0	2880.9	2889.3	2921.3	2936.6	2959.6	2962.2	2945.1	2911.5	2866.8	2820.3
360.0	2880.9	2882.5	2890.2	2908.9	2925.6	2939.2	2928.5	2899.6	2854.0	2809.7

C\γ	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
0.0	2759.8	2709.2	2663.2	2618.9	2575.4	2555.0	2542.6	2554.1	2573.7	2594.1
30.0	2788.8	2733.9	2683.6	2630.4	2587.8	2566.9	2567.7	2579.2	2596.7	2617.1
60.0	2819.1	2783.7	2728.8	2661.9	2624.8	2601.0	2598.4	2603.9	2624.4	2638.0
90.0	2833.5	2786.3	2729.2	2656.8	2617.6	2597.1	2592.9	2607.8	2628.7	2656.8
120.0	2816.5	2765.4	2703.6	2639.7	2612.0	2600.1	2606.5	2621.0	2662.7	2698.9
150.0	2778.6	2725.8	2671.2	2632.9	2615.9	2617.1	2626.5	2650.8	2677.6	2701.9
180.0	2764.5	2709.6	2646.1	2621.8	2607.8	2609.1	2617.6	2643.1	2666.6	2690.0
210.0	2736.0	2684.9	2635.0	2609.1	2597.6	2595.0	2597.6	2618.9	2638.0	2669.5
240.0	2751.3	2687.9	2644.0	2611.6	2589.0	2583.1	2591.2	2603.1	2623.1	2653.8
270.0	2761.6	2708.3	2652.1	2610.3	2592.4	2575.0	2573.7	2581.8	2601.0	2619.3
300.0	2751.3	2700.6	2656.8	2603.5	2576.3	2552.8	2545.6	2547.7	2556.7	2572.8
330.0	2751.8	2704.5	2664.0	2607.8	2575.8	2549.0	2534.5	2536.2	2552.0	2580.9
360.0	2759.8	2709.2	2663.2	2618.9	2575.4	2555.0	2542.6	2554.1	2573.7	2594.1

C\γ	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
0.0	2601.4	2607.4	2613.7	2618.0	2603.9	2575.0	2543.5	2485.5	2434.8	2384.1
30.0	2624.8	2631.6	2634.6	2630.8	2620.6	2586.9	2549.4	2506.0	2445.5	2395.2
60.0	2654.6	2664.0	2667.0	2660.6	2649.5	2624.0	2572.0	2518.3	2450.6	2397.4
90.0	2675.1	2688.3	2685.3	2679.8	2664.9	2645.3	2610.8	2547.3	2493.2	2440.8
120.0	2723.2	2730.5	2724.1	2716.4	2695.1	2659.3	2582.2	2526.4	2467.6	2392.7
150.0	2721.5	2732.2	2731.3	2713.8	2664.9	2620.6	2566.9	2506.4	2452.3	2393.5
180.0	2720.7	2736.0	2737.3	2718.1	2689.1	2656.8	2589.9	2537.9	2482.5	2442.5
210.0	2702.8	2714.7	2718.5	2701.1	2674.7	2634.2	2572.0	2503.8	2457.8	2415.7
240.0	2675.1	2677.2	2666.6	2638.9	2606.5	2556.2	2497.5	2446.3	2381.6	2326.6
270.0	2635.5	2646.5	2640.2	2624.8	2598.0	2569.9	2530.7	2462.1	2408.4	2361.6
300.0	2583.5	2601.8	2609.9	2612.5	2597.6	2579.2	2546.0	2502.6	2458.7	2404.6
330.0	2603.1	2620.1	2628.7	2633.3	2618.9	2588.6	2543.5	2494.9	2441.2	2388.8
360.0	2601.4	2607.4	2613.7	2618.0	2603.9	2575.0	2543.5	2485.5	2434.8	2384.1

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**Intensity Data [cd]**

C\γ	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0
0.0	2322.0	2263.6	2152.8	1947.5	1739.7	1527.1	1248.9	1069.2	937.6	896.2
30.0	2316.0	2258.1	2170.7	1947.1	1738.8	1524.5	1279.2	1096.4	932.0	887.3
60.0	2337.7	2265.3	2144.8	1962.9	1720.5	1504.5	1291.1	1075.1	961.4	902.6
90.0	2375.6	2311.3	2187.8	1943.3	1726.0	1467.9	1255.3	1078.6	971.6	935.9
120.0	2328.8	2221.4	2017.0	1792.9	1553.9	1258.3	1084.9	971.2	935.4	900.5
150.0	2328.8	2216.3	1969.3	1742.6	1508.8	1239.1	1053.8	938.4	872.0	826.4
180.0	2385.8	2230.8	2035.3	1770.8	1530.9	1249.8	1047.5	929.5	852.8	806.4
210.0	2326.6	2178.8	1947.1	1716.2	1481.5	1185.0	1011.2	912.4	867.7	830.2
240.0	2263.2	2109.8	1914.3	1693.2	1429.6	1217.4	990.0	901.3	865.6	828.1
270.0	2293.0	2185.2	1973.5	1758.8	1536.9	1264.7	1090.9	987.0	937.1	903.1
300.0	2356.9	2296.8	2145.6	1947.1	1714.1	1436.4	1212.7	1038.9	958.4	930.3
330.0	2335.6	2284.9	2157.5	1975.2	1755.8	1450.8	1237.0	1047.5	953.3	915.0
360.0	2322.0	2263.6	2152.8	1947.5	1739.7	1527.1	1248.9	1069.2	937.6	896.2

C\γ	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0
0.0	860.0	820.4	788.9	748.4	717.3	681.1	639.0	595.9	541.4	472.0
30.0	846.0	807.6	778.7	746.3	719.0	693.5	661.1	607.4	556.3	488.6
60.0	864.3	833.2	801.2	771.0	746.7	716.9	685.4	653.0	597.6	546.9
90.0	906.5	870.3	842.6	806.4	771.9	739.9	699.9	667.9	638.1	584.9
120.0	866.8	834.0	802.1	760.4	725.9	695.6	663.7	638.1	607.9	572.5
150.0	781.7	743.7	710.9	680.3	662.8	648.3	634.3	621.1	601.9	573.8
180.0	777.4	751.0	737.8	727.6	714.8	703.3	678.1	647.5	607.0	543.5
210.0	796.1	768.9	750.1	731.4	720.3	706.3	677.7	639.4	589.5	518.8
240.0	803.0	778.7	745.4	722.4	706.7	677.3	645.3	601.0	539.3	476.7
270.0	863.9	831.9	800.8	771.9	730.5	697.7	650.5	603.6	550.4	479.2
300.0	887.7	861.3	823.8	777.0	748.9	711.4	659.8	613.0	562.7	495.4
330.0	866.8	844.7	815.3	766.3	729.7	690.1	644.1	598.9	547.4	480.9
360.0	860.0	820.4	788.9	748.4	717.3	681.1	639.0	595.9	541.4	472.0

C\γ	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0
0.0	405.9	343.8	264.5	213.4	175.9	138.4	116.7	101.8	92.4	83.5
30.0	428.5	366.3	294.3	241.5	195.5	148.2	124.8	106.1	92.9	83.9
60.0	480.1	418.3	354.0	279.4	226.6	178.5	135.5	114.6	98.8	86.9
90.0	538.0	473.7	412.3	337.8	259.0	195.9	159.3	126.1	104.8	92.0
120.0	533.7	470.3	411.9	333.5	266.7	181.0	139.3	120.1	96.3	85.2
150.0	516.3	457.9	382.5	293.1	220.7	160.2	125.7	106.1	88.2	79.2
180.0	478.4	408.1	326.7	266.2	200.2	154.2	126.5	102.2	90.7	80.9
210.0	453.2	357.8	289.2	229.6	163.6	136.7	115.9	100.5	89.9	78.8
240.0	389.3	323.3	262.4	197.2	152.9	126.1	109.5	97.5	86.9	80.1
270.0	415.7	353.6	271.8	223.2	178.5	145.3	124.8	105.2	96.3	86.9
300.0	431.5	348.9	288.4	235.1	200.6	154.6	131.2	111.6	100.1	91.2
330.0	409.4	348.9	285.8	236.8	193.4	149.9	126.5	109.9	98.0	88.6
360.0	405.9	343.8	264.5	213.4	175.9	138.4	116.7	101.8	92.4	83.5

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C\γ	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0
0.0	76.7	72.0	65.2	60.5	57.1	51.5	47.3	41.3	36.6	33.2
30.0	75.4	71.1	66.5	60.9	56.7	51.1	47.3	40.0	35.8	31.9
60.0	78.4	69.9	65.6	60.5	54.5	49.8	45.6	39.2	34.5	30.2
90.0	79.7	72.8	65.6	58.8	54.1	48.6	43.9	37.9	32.4	28.1
120.0	74.5	66.9	60.1	54.1	49.0	44.7	38.3	33.2	29.4	24.7
150.0	71.1	63.5	57.5	52.8	47.7	43.0	37.5	31.5	28.1	23.9
180.0	71.1	63.5	57.5	53.2	48.6	42.2	36.2	32.4	28.1	24.7
210.0	72.4	66.5	60.5	56.2	51.5	44.7	38.3	34.9	29.8	26.4
240.0	73.7	67.3	62.2	57.9	52.8	48.1	42.2	36.6	32.8	29.4
270.0	78.0	72.0	65.6	61.3	56.7	49.8	43.9	39.6	34.5	30.7
300.0	80.5	75.0	68.6	63.9	58.8	53.2	47.7	42.2	36.6	32.4
330.0	80.1	74.5	69.9	63.5	58.8	54.5	48.6	43.0	38.3	32.8
360.0	76.7	72.0	65.2	60.5	57.1	51.5	47.3	41.3	36.6	33.2

C\γ	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0
0.0	28.5	25.6	23.0	20.4	19.2	16.6	14.9	12.4	8.5	6.0
30.0	27.7	24.7	22.2	20.0	17.9	15.3	13.6	11.9	8.9	6.0
60.0	26.0	23.4	20.9	18.7	17.0	14.9	12.4	10.6	8.1	6.0
90.0	25.1	21.7	19.6	17.9	15.3	13.2	11.5	9.8	7.2	5.5
120.0	22.2	20.0	17.9	16.2	13.6	11.9	10.2	8.1	6.4	5.1
150.0	21.7	20.0	17.5	16.2	14.1	11.9	10.2	7.7	5.5	5.1
180.0	22.6	20.0	19.2	17.0	14.1	12.4	9.8	7.7	5.5	4.7
210.0	23.9	20.9	19.6	17.0	14.9	13.2	10.2	7.7	5.5	5.1
240.0	26.0	23.0	20.4	19.2	16.6	13.6	11.1	8.5	5.5	5.1
270.0	27.7	24.3	21.7	20.0	17.0	14.9	11.5	8.9	6.4	5.5
300.0	29.4	26.0	23.0	20.9	19.2	16.6	14.1	11.1	8.5	6.0
330.0	29.4	26.8	23.4	20.9	19.2	17.0	14.9	12.4	8.9	6.0
360.0	28.5	25.6	23.0	20.4	19.2	16.6	14.9	12.4	8.5	6.0

C\γ	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.5	4.7	4.3	3.8	3.4	2.6	2.1	1.7	1.3	0.9
30.0	5.1	4.7	4.3	3.8	3.0	2.6	2.1	1.7	1.3	0.9
60.0	4.7	4.7	4.3	3.4	3.0	2.6	2.1	1.7	1.3	0.9
90.0	5.1	4.3	3.8	3.4	3.0	2.6	2.1	1.7	0.9	0.4
120.0	4.3	3.8	3.4	3.0	2.6	2.1	1.7	1.3	0.9	0.4
150.0	4.3	3.8	3.4	3.0	2.1	1.7	1.3	1.3	0.4	0.4
180.0	4.3	3.8	3.0	3.0	2.1	2.1	1.3	0.9	0.4	0.4
210.0	4.3	3.8	3.4	3.0	2.6	1.7	1.3	1.3	0.4	0.4
240.0	4.7	3.8	3.8	3.0	2.6	1.7	1.3	1.3	0.4	0.4
270.0	5.1	4.3	3.8	3.4	3.0	2.1	1.7	1.3	0.9	0.4
300.0	5.5	4.7	4.3	3.8	3.0	2.6	2.1	1.7	0.9	0.9
330.0	5.5	4.7	4.3	3.8	3.4	2.6	2.1	1.7	1.3	0.9
360.0	5.5	4.7	4.3	3.8	3.4	2.6	2.1	1.7	1.3	0.9

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### Intensity Data [cd]

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C\γ	90.0	91.0	92.0	93.0	94.0	95.0	96.0	97.0	98.0	99.0
0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
30.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
60.0	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.0	0.4
90.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
120.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
150.0	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.4
180.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
210.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
240.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4
270.0	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.4	0.0
300.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
330.0	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.4
360.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

C\γ	100.0	101.0	102.0	103.0	104.0	105.0	106.0	107.0	108.0	109.0
0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
30.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
60.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
90.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
120.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
150.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
180.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
210.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
240.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
270.0	0.4	0.4	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4
300.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
330.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
360.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

C\γ	110.0	111.0	112.0	113.0	114.0	115.0	116.0	117.0	118.0	119.0
0.0	0.4	0.4	0.4	0.4	0.9	0.9	0.9	0.9	0.9	0.9
30.0	0.9	0.4	0.4	0.4	0.4	0.9	0.9	0.9	0.9	0.9
60.0	0.4	0.4	0.4	0.9	0.4	0.9	0.9	0.4	0.9	0.9
90.0	0.4	0.9	0.4	0.4	0.9	0.4	0.4	0.9	0.4	0.9
120.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
150.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9
180.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
210.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9
240.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9
270.0	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.4	0.9	0.9
300.0	0.4	0.4	0.9	0.4	0.9	0.9	0.9	0.4	0.9	0.9
330.0	0.4	0.4	0.9	0.4	0.9	0.9	0.9	0.9	0.9	0.9
360.0	0.4	0.4	0.4	0.4	0.9	0.9	0.9	0.9	0.9	0.9

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**Intensity Data [cd]**

C\γ	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0
0.0	0.9	0.9	0.9	1.3	1.3	1.3	1.7	1.7	2.1	2.1
30.0	0.9	0.9	0.9	0.9	1.3	1.3	1.7	1.7	1.7	2.1
60.0	0.9	0.9	0.9	0.9	0.9	1.3	1.7	1.7	1.7	2.1
90.0	0.9	0.9	0.9	0.9	1.3	1.3	1.7	1.7	2.1	2.1
120.0	0.9	0.9	0.9	1.3	1.3	1.7	2.1	2.6	3.0	3.0
150.0	0.9	0.9	1.3	1.3	1.7	1.7	2.1	2.1	3.0	3.0
180.0	0.9	0.9	0.9	1.3	1.3	1.7	2.1	2.6	2.6	3.4
210.0	0.9	0.9	0.9	1.3	1.3	1.7	2.1	2.1	2.6	3.0
240.0	0.9	0.9	1.3	1.3	1.7	1.7	2.1	2.6	2.6	3.0
270.0	0.9	0.9	1.3	1.3	1.3	2.1	2.1	2.6	3.0	3.0
300.0	0.9	0.9	0.9	1.3	1.3	1.3	1.3	1.7	1.7	2.1
330.0	0.9	0.9	1.3	0.9	1.3	1.3	1.7	1.7	1.7	2.1
360.0	0.9	0.9	0.9	1.3	1.3	1.3	1.7	1.7	2.1	2.1

C\γ	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0
0.0	2.6	3.0	3.4	3.4	3.8	4.3	4.7	5.1	5.5	6.0
30.0	2.6	2.6	3.0	3.4	3.8	4.3	4.3	5.1	5.5	6.0
60.0	2.6	2.6	3.4	3.4	3.8	4.3	4.7	5.1	5.5	6.0
90.0	2.6	3.0	3.0	3.4	3.8	4.3	4.7	5.1	5.5	6.0
120.0	3.4	3.8	4.3	4.7	5.1	5.5	6.4	6.8	7.7	8.1
150.0	3.8	3.8	4.3	4.7	5.5	6.0	6.4	6.8	7.7	8.5
180.0	3.4	3.8	4.7	4.7	5.1	6.0	6.4	6.8	7.7	8.5
210.0	3.4	3.8	4.7	4.7	5.5	6.0	6.4	7.2	7.7	8.5
240.0	3.8	3.8	4.7	4.7	5.5	6.0	6.4	7.2	8.1	8.5
270.0	3.4	4.3	4.7	4.7	5.5	6.0	6.8	7.2	7.7	8.5
300.0	2.6	3.0	3.4	3.8	3.8	4.7	5.1	5.1	5.5	6.4
330.0	2.6	3.0	3.4	3.8	3.8	4.7	4.7	5.1	6.0	6.4
360.0	2.6	3.0	3.4	3.4	3.8	4.3	4.7	5.1	5.5	6.0

C\γ	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	149.0
0.0	6.4	7.2	7.7	8.1	8.5	9.4	9.8	10.6	11.1	11.5
30.0	6.4	6.8	7.7	8.1	8.5	8.9	9.8	10.2	11.1	11.5
60.0	6.4	6.8	7.7	8.1	8.5	8.9	9.8	10.2	10.6	11.5
90.0	6.8	6.8	7.7	8.1	8.5	9.4	9.8	10.2	11.1	11.5
120.0	8.9	9.8	10.6	11.1	11.5	12.8	13.6	14.5	15.3	16.2
150.0	8.9	9.8	10.2	11.1	12.4	12.8	13.6	14.5	15.3	16.6
180.0	8.9	9.4	10.2	11.1	11.9	12.8	13.6	14.5	15.3	16.2
210.0	8.9	9.4	10.6	11.1	11.9	12.8	13.6	14.5	15.3	16.2
240.0	8.9	9.8	10.2	11.5	11.9	13.2	13.6	14.9	15.8	16.6
270.0	9.4	9.8	10.6	11.5	11.9	13.2	14.1	14.5	15.8	16.6
300.0	6.8	7.2	7.7	8.1	8.9	9.4	10.2	10.6	11.1	11.9
330.0	6.8	7.2	7.7	8.5	8.9	9.4	10.2	10.6	11.1	11.9
360.0	6.4	7.2	7.7	8.1	8.5	9.4	9.8	10.6	11.1	11.5

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C\γ	150.0	151.0	152.0	153.0	154.0	155.0	156.0	157.0	158.0	159.0
0.0	11.9	12.8	13.6	14.5	14.9	15.8	16.6	17.5	17.9	18.7
30.0	12.4	12.8	13.6	14.1	14.9	15.8	16.6	17.0	18.3	18.7
60.0	11.9	12.8	13.6	14.5	14.9	15.8	16.6	17.5	17.9	18.7
90.0	12.4	13.2	13.6	14.5	14.9	15.8	16.6	17.0	17.9	18.7
120.0	17.0	17.9	18.3	19.6	20.0	20.4	21.3	22.2	23.0	23.9
150.0	17.0	17.9	19.2	19.6	20.4	20.9	21.7	22.6	23.0	23.9
180.0	17.0	17.9	18.7	20.0	20.4	20.9	21.7	22.6	23.4	24.3
210.0	17.5	17.9	18.7	20.0	20.4	20.4	21.7	22.6	23.4	24.3
240.0	17.5	18.3	19.2	20.0	20.4	20.9	22.2	22.6	23.9	24.3
270.0	17.5	17.9	19.2	20.0	20.4	20.9	21.7	23.0	23.4	24.7
300.0	12.4	13.2	14.1	14.5	15.3	16.2	17.0	17.9	18.7	19.2
330.0	12.4	13.2	13.6	14.5	15.3	15.8	16.6	17.5	17.9	18.7
360.0	11.9	12.8	13.6	14.5	14.9	15.8	16.6	17.5	17.9	18.7

C\γ	160.0	161.0	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0
0.0	19.6	20.0	20.4	20.9	21.3	22.6	23.4	24.3	25.6	26.4
30.0	19.6	20.0	20.4	20.9	21.7	22.6	23.4	24.3	25.1	26.0
60.0	19.6	20.0	20.4	20.9	21.7	22.6	23.4	24.3	25.1	26.4
90.0	19.6	20.0	20.4	20.9	21.7	22.6	23.4	24.3	25.1	26.0
120.0	24.7	25.6	26.4	26.8	27.7	28.5	29.0	30.2	30.7	31.1
150.0	25.1	25.6	26.0	27.3	27.7	28.5	29.4	29.8	30.7	31.1
180.0	25.1	25.6	26.8	27.3	28.1	28.5	29.0	29.8	30.7	31.1
210.0	25.1	26.0	26.8	27.3	28.1	29.0	29.4	30.2	30.7	31.5
240.0	25.1	26.0	26.4	27.7	28.1	28.5	29.4	30.2	30.7	31.1
270.0	25.1	26.0	26.8	27.3	28.1	29.0	29.4	29.8	30.2	30.7
300.0	20.0	20.4	20.4	20.9	21.7	22.6	23.4	24.3	25.6	26.0
330.0	19.6	20.0	20.4	20.9	21.7	22.6	23.4	24.7	25.6	26.4
360.0	19.6	20.0	20.4	20.9	21.3	22.6	23.4	24.3	25.6	26.4

C\γ	170.0	171.0	172.0	173.0	174.0	175.0	176.0	177.0	178.0	179.0
0.0	26.8	27.7	28.5	28.5	29.0	29.8	30.7	31.1	31.5	31.9
30.0	26.8	27.3	28.1	29.0	29.4	30.2	30.7	31.1	31.5	31.9
60.0	26.8	27.7	28.5	29.0	29.8	29.8	30.7	31.1	31.5	32.4
90.0	27.3	27.7	28.1	29.0	29.8	30.2	30.7	31.1	31.9	32.4
120.0	31.9	31.9	32.4	32.8	32.8	32.8	32.8	32.8	32.8	32.8
150.0	31.9	32.4	32.4	32.4	32.4	32.8	32.8	32.8	32.8	32.8
180.0	31.5	31.9	32.4	32.4	32.4	32.8	32.8	32.8	32.8	32.8
210.0	31.9	31.9	32.4	32.4	32.4	32.4	32.8	32.8	32.8	32.8
240.0	31.5	31.9	32.4	32.4	32.8	32.8	32.8	32.8	32.8	32.8
270.0	31.5	31.9	32.4	32.4	32.4	32.4	32.8	32.8	32.8	33.2
300.0	26.8	27.7	28.1	28.5	29.4	29.8	30.7	31.1	31.5	32.4
330.0	26.8	27.7	28.1	29.0	29.4	30.2	30.7	31.1	31.9	32.4
360.0	26.8	27.7	28.5	28.5	29.0	29.8	30.7	31.1	31.5	31.9

Intensity Data [cd]		Page8
C\γ	180.0	
0.0	32.4	
30.0	32.8	
60.0	32.8	
90.0	32.8	
120.0	32.8	
150.0	32.8	
180.0	32.4	
210.0	32.8	
240.0	32.8	
270.0	32.8	
300.0	32.8	
330.0	32.8	
360.0	32.4	

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Zonal flux distribution table

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Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
0	2880.92	0.00	0.00	0.00	0.00
1	2889.84	2.76	2.76	2.76	2.76
2	2902.62	8.31	11.08	8.31	11.08
3	2914.90	13.91	24.99	13.91	24.99
4	2928.78	19.56	44.55	19.56	44.55
5	2935.06	25.23	69.78	25.23	69.78
6	2923.17	30.79	100.56	30.79	100.56
7	2898.79	36.14	136.70	36.14	136.70
8	2865.06	41.25	177.95	41.25	177.95
9	2825.06	46.12	224.06	46.12	224.06
10	2776.07	50.69	274.75	50.69	274.75
11	2724.99	54.97	329.72	54.97	329.72
12	2673.13	59.01	388.73	59.01	388.73
13	2625.39	62.88	451.61	62.88	451.61
14	2597.70	66.86	518.46	66.86	518.46
15	2583.43	71.13	589.59	71.13	589.59
16	2582.90	75.70	665.29	75.70	665.29
17	2595.64	80.64	745.94	80.64	745.94
18	2616.76	85.94	831.88	85.94	831.88
19	2641.11	91.48	923.36	91.48	923.36
20	2660.10	97.03	1020.38	97.03	1020.38
21	2670.86	102.37	1122.75	102.37	1122.75
22	2671.43	107.36	1230.10	107.36	1230.10
23	2662.34	111.92	1342.02	111.92	1342.02
24	2640.29	115.93	1457.95	115.93	1457.95
25	2607.99	119.33	1577.29	119.33	1577.29
26	2558.69	121.96	1699.25	121.96	1699.25
27	2503.13	123.84	1823.09	123.84	1823.09
28	2447.86	125.35	1948.44	125.35	1948.44
29	2395.29	126.71	2075.15	126.71	2075.15
30	2330.83	127.60	2202.75	127.60	2202.75
31	2235.20	127.07	2329.82	127.07	2329.82
32	2067.97	123.28	2453.10	123.28	2453.10
33	1849.80	115.42	2568.52	115.42	2568.52
34	1619.71	105.00	2673.51	105.00	2673.51
35	1360.47	92.55	2766.07	92.55	2766.07
36	1150.22	79.94	2846.01	79.94	2846.01
37	1003.79	70.25	2916.26	70.25	2916.26
38	920.41	64.23	2980.49	64.23	2980.49
39	880.16	61.46	3041.95	61.46	3041.95
40	843.35	60.11	3102.06	60.11	3102.06

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Zonal flux distribution table

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Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
41	812.14	58.95	3161.01	58.95	3161.01
42	783.14	57.96	3218.97	57.96	3218.97
43	750.77	56.82	3275.79	56.82	3275.79
44	724.54	55.68	3331.47	55.68	3331.47
45	696.78	54.62	3386.09	54.62	3386.09
46	661.56	53.12	3439.21	53.12	3439.21
47	623.90	51.13	3490.34	51.13	3490.34
48	578.29	48.60	3538.94	48.60	3538.94
49	519.43	45.08	3584.02	45.08	3584.02
50	456.67	40.70	3624.71	40.70	3624.71
51	389.23	35.79	3660.50	35.79	3660.50
52	320.33	30.45	3690.95	30.45	3690.95
53	257.25	25.12	3716.08	10.09	3701.04
54	202.80	20.28	3736.35	0.00	3701.04
55	155.76	16.01	3752.36	0.00	3701.04
56	127.97	12.82	3765.18	0.00	3701.04
57	108.48	10.81	3775.99	0.00	3701.04
58	94.60	9.39	3785.38	0.00	3701.04
59	84.77	8.39	3793.77	0.00	3701.04
60	75.96	7.59	3801.36	0.00	3701.04
61	69.57	6.95	3808.31	0.00	3701.04
62	63.72	6.42	3814.73	0.00	3701.04
63	58.64	5.95	3820.68	0.00	3701.04
64	53.85	5.52	3826.20	0.00	3701.04
65	48.45	5.06	3831.26	0.00	3701.04
66	43.06	4.57	3835.83	0.00	3701.04
67	37.66	4.06	3839.89	0.00	3701.04
68	33.08	3.58	3843.47	0.00	3701.04
69	29.04	3.17	3846.64	0.00	3701.04
70	25.84	2.82	3849.46	0.00	3701.04
71	23.04	2.53	3851.98	0.00	3701.04
72	20.69	2.27	3854.26	0.00	3701.04
73	18.71	2.06	3856.32	0.00	3701.04
74	16.51	1.85	3858.17	0.00	3701.04
75	14.31	1.63	3859.80	0.00	3701.04
76	12.03	1.40	3861.20	0.00	3701.04
77	9.73	1.16	3862.36	0.00	3701.04
78	7.10	0.90	3863.26	0.00	3701.04
79	5.50	0.68	3863.93	0.00	3701.04
80	4.86	0.56	3864.49	0.00	3701.04
81	4.26	0.49	3864.99	0.00	3701.04

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Zonal flux distribution table

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Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
82	3.83	0.44	3865.43	0.00	3701.04
83	3.37	0.39	3865.82	0.00	3701.04
84	2.80	0.34	3866.15	0.00	3701.04
85	2.24	0.28	3866.43	0.00	3701.04
86	1.77	0.22	3866.65	0.00	3701.04
87	1.46	0.18	3866.83	0.00	3701.04
88	0.85	0.13	3866.95	0.00	3701.04
89	0.60	0.08	3867.03	0.00	3701.04
90	0.43	0.06	3867.09	0.00	3701.04
91	0.43	0.05	3867.14	0.00	3701.04
92	0.43	0.05	3867.18	0.00	3701.04
93	0.43	0.05	3867.23	0.00	3701.04
94	0.39	0.04	3867.27	0.00	3701.04
95	0.32	0.04	3867.31	0.00	3701.04
96	0.43	0.04	3867.35	0.00	3701.04
97	0.43	0.05	3867.40	0.00	3701.04
98	0.35	0.04	3867.44	0.00	3701.04
99	0.39	0.04	3867.49	0.00	3701.04
100	0.43	0.04	3867.53	0.00	3701.04
101	0.43	0.05	3867.58	0.00	3701.04
102	0.39	0.04	3867.62	0.00	3701.04
103	0.39	0.04	3867.67	0.00	3701.04
104	0.43	0.04	3867.71	0.00	3701.04
105	0.43	0.05	3867.75	0.00	3701.04
106	0.43	0.05	3867.80	0.00	3701.04
107	0.43	0.04	3867.84	0.00	3701.04
108	0.43	0.04	3867.89	0.00	3701.04
109	0.43	0.04	3867.93	0.00	3701.04
110	0.46	0.05	3867.98	0.00	3701.04
111	0.46	0.05	3868.02	0.00	3701.04
112	0.50	0.05	3868.07	0.00	3701.04
113	0.46	0.05	3868.12	0.00	3701.04
114	0.57	0.05	3868.17	0.00	3701.04
115	0.60	0.06	3868.23	0.00	3701.04
116	0.64	0.06	3868.29	0.00	3701.04
117	0.57	0.06	3868.35	0.00	3701.04
118	0.64	0.06	3868.41	0.00	3701.04
119	0.78	0.07	3868.48	0.00	3701.04
120	0.85	0.08	3868.56	0.00	3701.04
121	0.85	0.08	3868.64	0.00	3701.04
122	0.99	0.09	3868.72	0.00	3701.04

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Zonal flux distribution table

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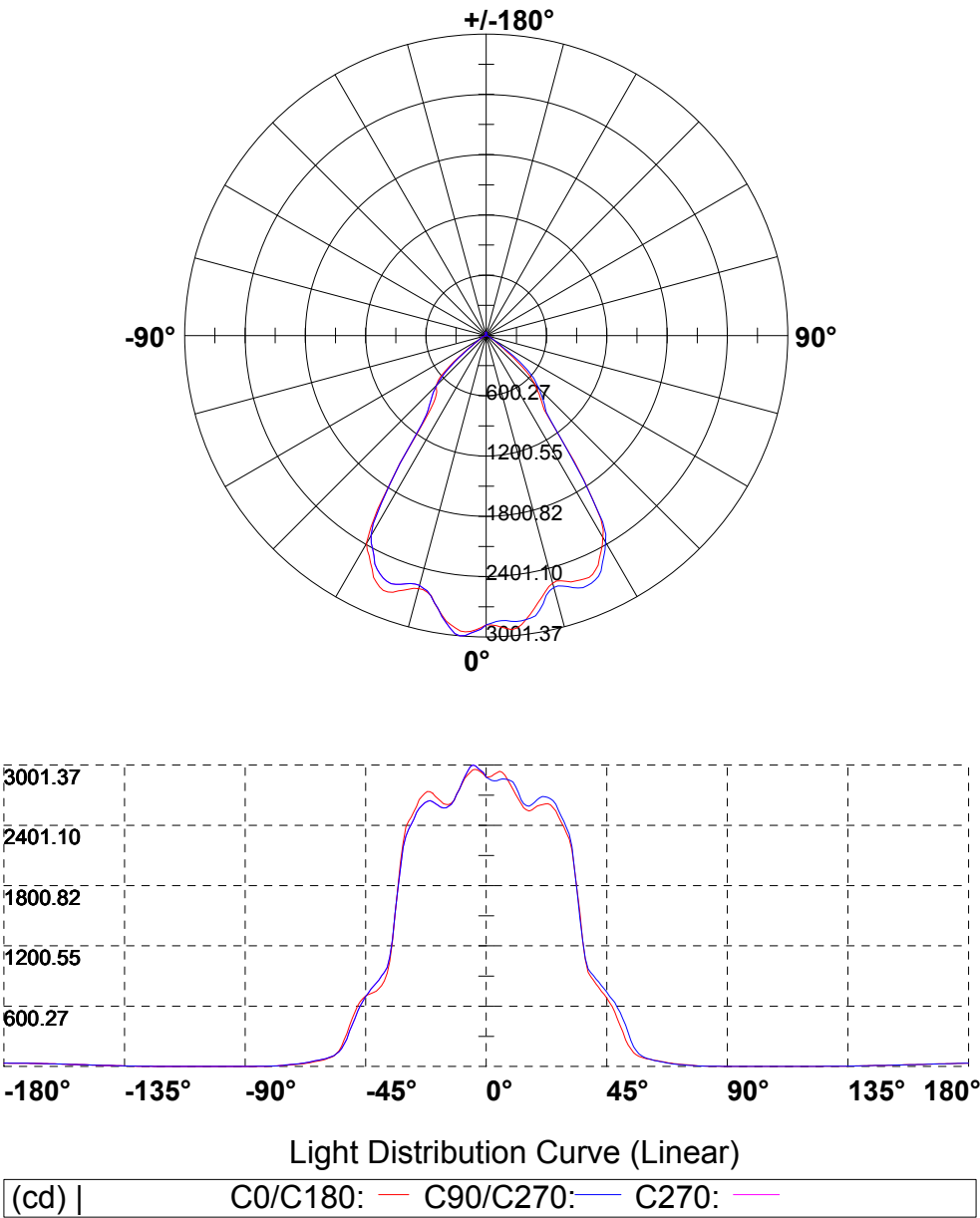
Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
123	1.14	0.10	3868.82	0.00	3701.04
124	1.31	0.11	3868.94	0.00	3701.04
125	1.53	0.13	3869.06	0.00	3701.04
126	1.88	0.15	3869.21	0.00	3701.04
127	2.06	0.17	3869.39	0.00	3701.04
128	2.31	0.19	3869.58	0.00	3701.04
129	2.59	0.21	3869.79	0.00	3701.04
130	3.05	0.24	3870.03	0.00	3701.04
131	3.37	0.27	3870.29	0.00	3701.04
132	3.90	0.30	3870.59	0.00	3701.04
133	4.12	0.32	3870.92	0.00	3701.04
134	4.61	0.35	3871.26	0.00	3701.04
135	5.15	0.38	3871.65	0.00	3701.04
136	5.57	0.41	3872.06	0.00	3701.04
137	6.07	0.44	3872.50	0.00	3701.04
138	6.67	0.47	3872.97	0.00	3701.04
139	7.28	0.51	3873.48	0.00	3701.04
140	7.81	0.54	3874.01	0.00	3701.04
141	8.34	0.56	3874.58	0.00	3701.04
142	9.05	0.59	3875.17	0.00	3701.04
143	9.69	0.63	3875.80	0.00	3701.04
144	10.29	0.65	3876.45	0.00	3701.04
145	11.08	0.68	3877.13	0.00	3701.04
146	11.82	0.71	3877.84	0.00	3701.04
147	12.50	0.74	3878.58	0.00	3701.04
148	13.24	0.76	3879.34	0.00	3701.04
149	14.02	0.78	3880.12	0.00	3701.04
150	14.73	0.80	3880.92	0.00	3701.04
151	15.48	0.82	3881.73	0.00	3701.04
152	16.29	0.83	3882.57	0.00	3701.04
153	17.15	0.85	3883.41	0.00	3701.04
154	17.71	0.85	3884.27	0.00	3701.04
155	18.28	0.85	3885.11	0.00	3701.04
156	19.20	0.85	3885.97	0.00	3701.04
157	19.99	0.86	3886.82	0.00	3701.04
158	20.73	0.85	3887.68	0.00	3701.04
159	21.51	0.85	3888.53	0.00	3701.04
160	22.36	0.84	3889.37	0.00	3701.04
161	22.93	0.83	3890.20	0.00	3701.04
162	23.50	0.81	3891.00	0.00	3701.04
163	24.07	0.78	3891.79	0.00	3701.04

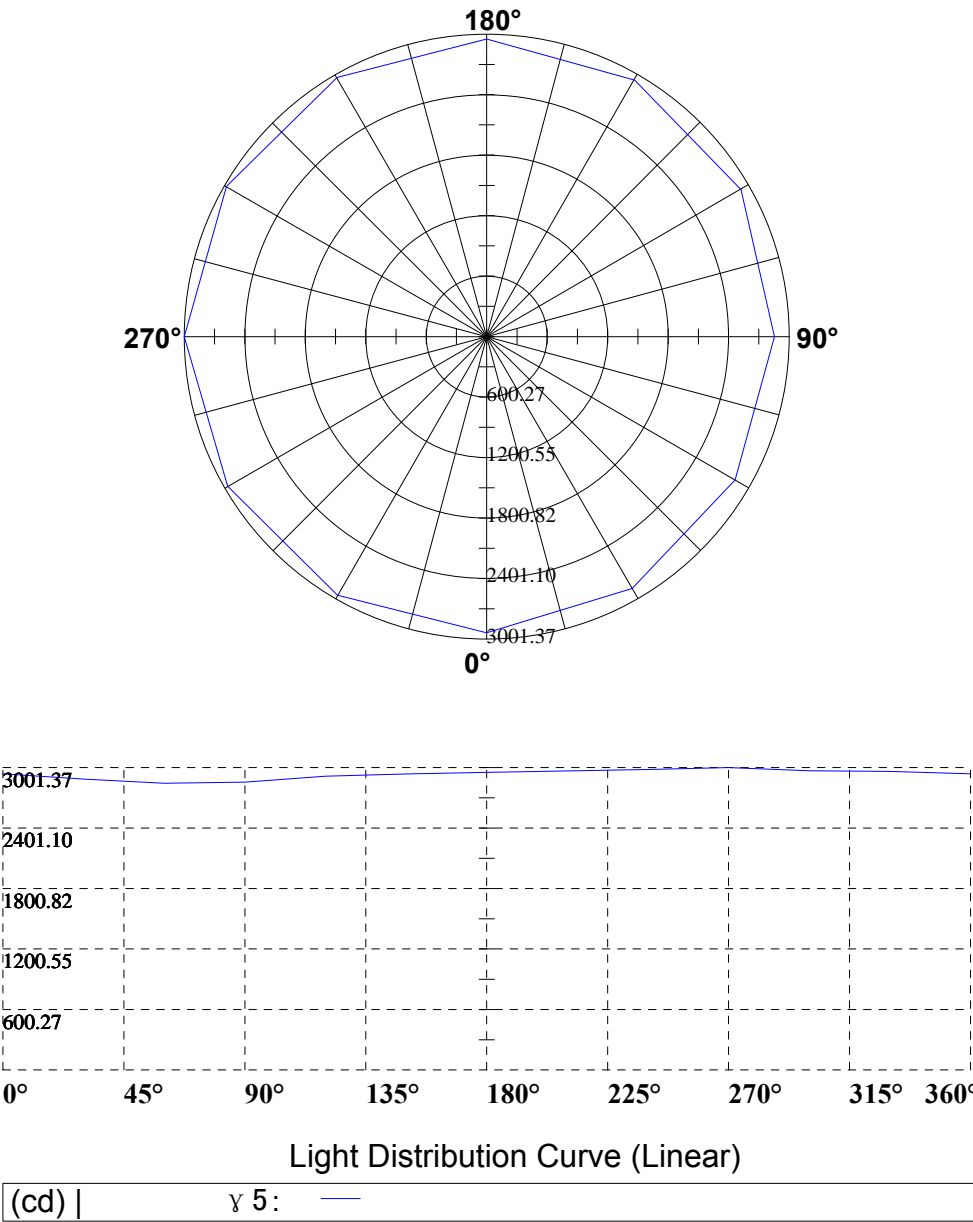
## R854 WNL (CRI90 1050mA 70D)

### Zonal flux distribution table

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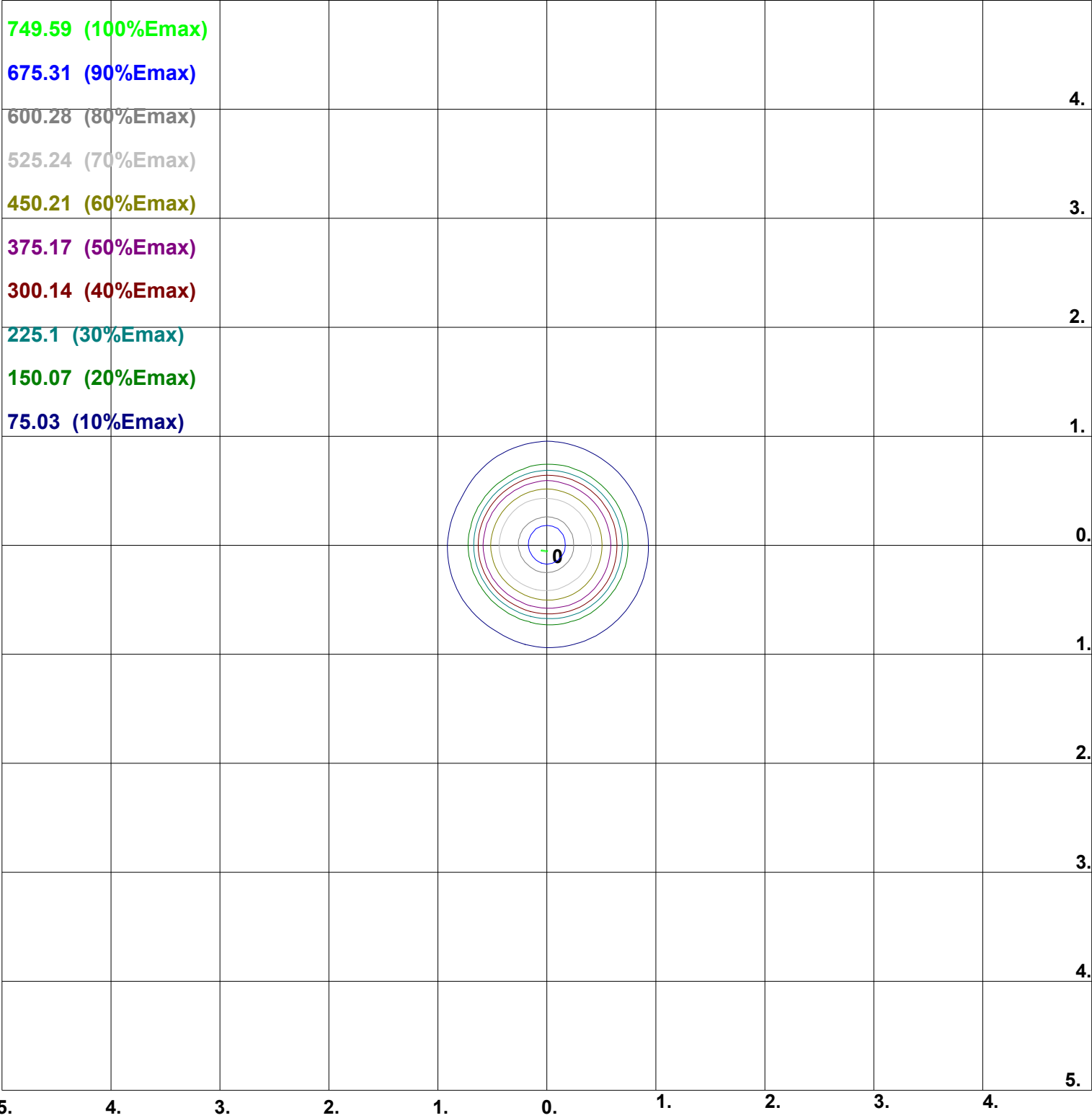
[illegible]





ISO-Illuminance

Unit: [lx]



Coordinate Scale: d/h  
Height: 2 m  
Max Illuminance : 750.34lx

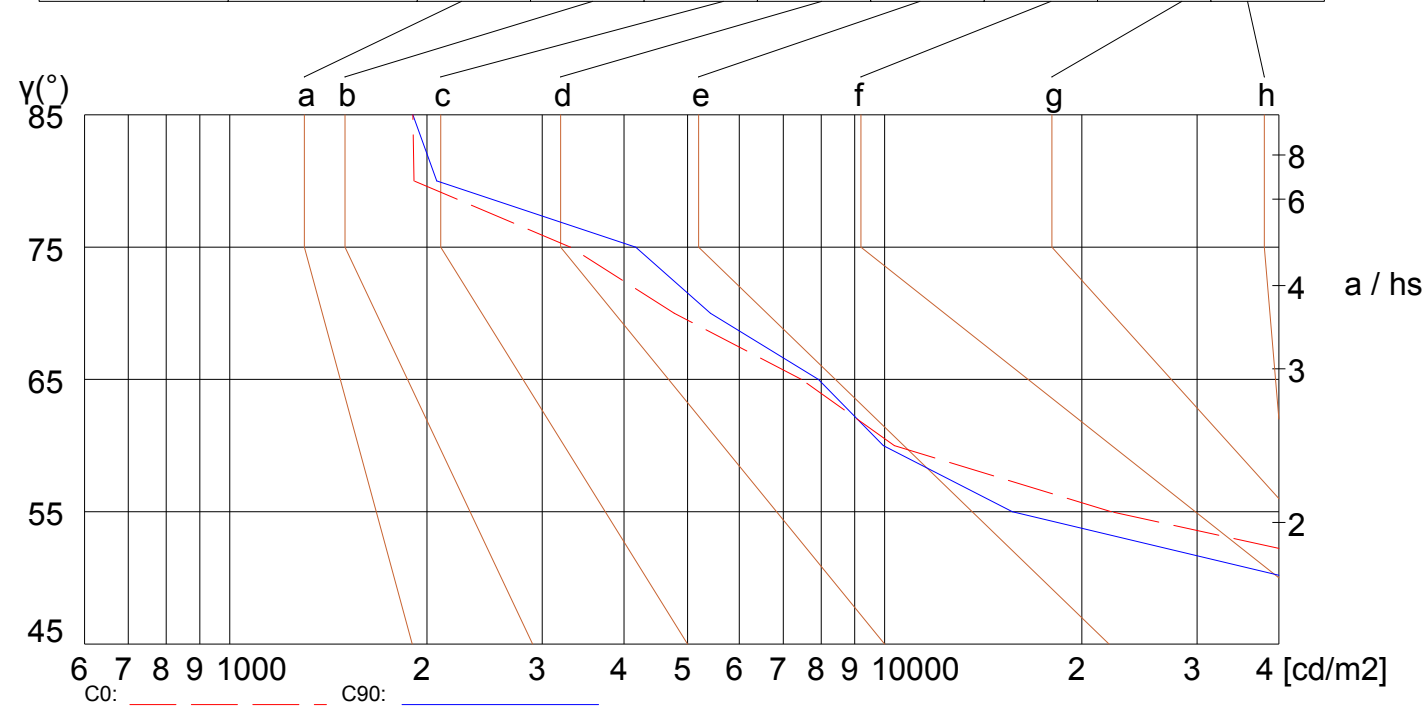
Luminance Limiting Curve (There is not luminous side)

Diameter: 140mm  
Length: -140mm  
Width: -140mm  
Height: 100mm

(cd/m2)

$\gamma$	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	67947	54349	22183	10345	7461	4772	3313	1911	1904
C90	62549	41009	15673	9958	7919	5419	4168	2071	1904

Glare	Quality	Service Values Illuminance (lx)							
1.15	A	2000	1000	500	≤300				
1.5	B		2000	1000	500	≤300			
1.85	C			2000	1000	500	≤300		
2.2	D				2000	1000	500	≤300	
2.55	E					2000	1000	500	≤300



Luminance Limiting Curve (C0/C90)

**R854 WNL (CRI90 1050mA 70D)**

utilization factor table for indoor luminaire

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RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION FOR RHOFC=20															
0	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.98	0.97	0.97	0.97	0.96	0.95	0.93	0.92	0.91	0.88	0.87	0.86	0.82	0.81	0.80	0.75
2	0.90	0.89	0.88	0.89	0.87	0.86	0.86	0.84	0.82	0.82	0.80	0.78	0.77	0.75	0.73	0.69
3	0.82	0.81	0.80	0.82	0.80	0.78	0.79	0.77	0.75	0.76	0.73	0.71	0.72	0.69	0.66	0.62
4	0.76	0.74	0.73	0.75	0.73	0.71	0.73	0.70	0.68	0.70	0.67	0.65	0.67	0.64	0.61	0.57
5	0.69	0.68	0.67	0.69	0.67	0.65	0.67	0.64	0.62	0.65	0.62	0.59	0.63	0.59	0.56	0.52
6	0.64	0.62	0.61	0.64	0.61	0.60	0.62	0.59	0.57	0.61	0.57	0.54	0.59	0.55	0.51	0.48
7	0.59	0.57	0.56	0.59	0.56	0.55	0.58	0.55	0.52	0.57	0.53	0.50	0.55	0.51	0.47	0.44
8	0.55	0.53	0.52	0.55	0.52	0.51	0.54	0.51	0.48	0.53	0.49	0.46	0.52	0.47	0.44	0.41
9	0.51	0.49	0.48	0.51	0.49	0.47	0.50	0.47	0.45	0.50	0.46	0.43	0.49	0.44	0.40	0.38
10	0.47	0.46	0.45	0.47	0.45	0.44	0.47	0.44	0.42	0.47	0.43	0.40	0.46	0.41	0.38	0.35

