

R854 WNL (CRI90 1400mA 70D)

Luminaire Name: R854 WNL (CRI90 1400mA 70D)

Report NO.: 01313217031112A

Test NO.:

Lamp: CITIZEN CLU038-1208C4-403H5M3 1400mA

Sum Lumens: 5633.9 lm

Number of Lamps: 1

Diameter: 140mm

Length: -140mm

Photometric Type: Type C

Voltage: 230.32 V

Current: 0.2435 A

Power: 54.335 W

Power Factor: 0.969

Ballast Type: HEP LTC60W1400-1CZ UNI

Width: -140mm

Height: 100mm

Optical Component: 70D Reflector DC(V:37.37V I:1.369A P:51.16W)

Photometric Results

Lumens: 4881.28 lm

Efficiency: 86.64%

Central Intensity: 3608.082cd

Maximum Intensity: 3774.505cd

Beam Angle(10%): Left: -46.6 Right:58.5

Maximum s/h: C0_180: 0.6 C90_270: 0.6

Effective Luminous Flux: 4633.26 lm

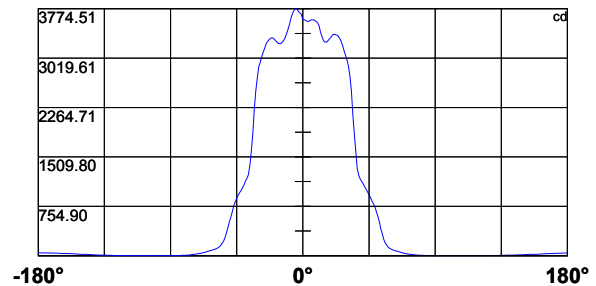
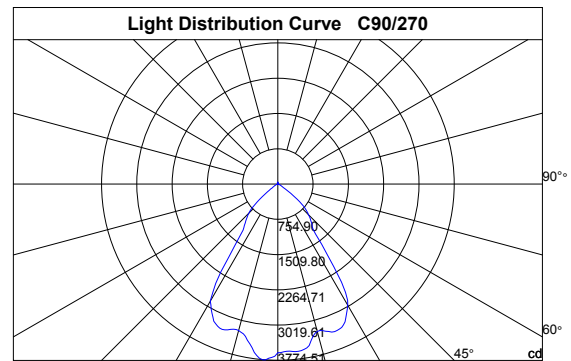
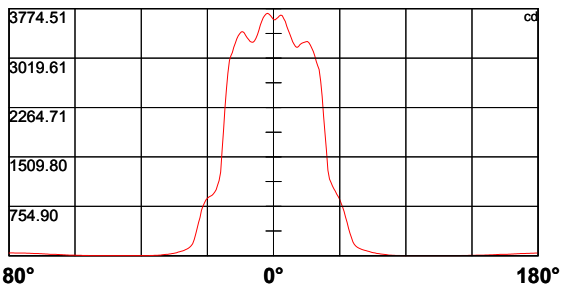
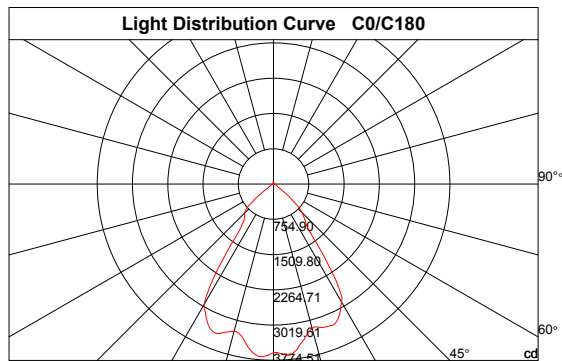
Angle of maximum intensity: C:270.0 G:5.0

Half Peak Side Angle(50%): Left: -29.0 Right:39.9

Up Flux Rate: 0.71%

Down Flux Rate: 85.93%

CIE Classification: Direct



R854 WNL (CRI90 1400mA 70D)**Intensity Data [cd]****Page2**

C\γ	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
0.0	3608.1	3604.1	3623.7	3640.8	3664.2	3677.0	3668.9	3619.0	3580.3	3507.8
30.0	3608.1	3592.6	3585.8	3590.5	3602.0	3617.3	3617.7	3600.7	3579.0	3548.3
60.0	3608.1	3593.0	3571.7	3562.4	3565.8	3574.3	3578.6	3570.0	3565.8	3559.8
90.0	3608.1	3607.5	3592.6	3582.0	3582.8	3596.5	3605.8	3604.1	3597.3	3581.5
120.0	3608.1	3576.4	3579.8	3590.9	3610.1	3642.9	3648.4	3632.2	3616.0	3583.7
150.0	3608.1	3608.0	3628.8	3655.7	3672.7	3672.3	3655.2	3630.1	3581.1	3534.7
180.0	3608.1	3637.3	3668.4	3689.3	3703.8	3697.0	3670.6	3637.3	3584.9	3526.2
210.0	3608.1	3657.8	3690.6	3709.8	3722.1	3716.6	3685.1	3636.1	3579.0	3511.7
240.0	3608.1	3672.7	3701.7	3725.1	3746.8	3746.0	3719.1	3658.2	3596.9	3528.7
270.0	3608.1	3685.1	3711.5	3731.5	3768.1	3774.5	3750.2	3700.8	3639.0	3545.3
300.0	3608.1	3617.7	3658.6	3682.1	3706.8	3708.9	3685.9	3647.1	3577.7	3511.7
330.0	3608.1	3615.6	3645.9	3678.2	3694.0	3703.4	3676.1	3635.6	3586.7	3519.8
360.0	3608.1	3604.1	3623.7	3640.8	3664.2	3677.0	3668.9	3619.0	3580.3	3507.8

C\γ	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
0.0	3448.6	3393.3	3334.5	3268.5	3229.7	3194.8	3182.8	3196.0	3225.0	3245.0
30.0	3499.8	3422.7	3360.5	3294.0	3239.5	3217.8	3219.0	3230.1	3250.6	3279.1
60.0	3539.8	3501.0	3431.6	3346.0	3285.5	3264.6	3260.4	3272.3	3290.6	3309.8
90.0	3561.5	3518.5	3423.9	3345.1	3289.8	3266.3	3259.9	3281.7	3311.9	3336.2
120.0	3510.4	3445.2	3369.4	3302.1	3266.3	3250.1	3257.4	3274.8	3325.1	3371.5
150.0	3477.6	3415.0	3334.5	3293.6	3271.0	3270.6	3280.0	3314.0	3343.4	3372.4
180.0	3446.9	3378.4	3318.7	3281.7	3261.6	3265.0	3275.3	3304.2	3331.9	3365.6
210.0	3419.2	3355.4	3310.6	3268.0	3254.8	3251.4	3256.1	3275.7	3310.2	3349.8
240.0	3446.5	3380.1	3317.0	3276.5	3252.3	3243.7	3253.5	3268.9	3297.0	3330.6
270.0	3470.4	3403.9	3334.1	3290.2	3265.5	3241.6	3239.1	3248.0	3271.0	3299.1
300.0	3433.3	3370.3	3317.9	3251.8	3216.9	3193.5	3179.9	3182.8	3192.6	3211.8
330.0	3454.2	3392.4	3315.3	3263.8	3216.1	3186.7	3167.9	3172.2	3194.3	3220.3
360.0	3448.6	3393.3	3334.5	3268.5	3229.7	3194.8	3182.8	3196.0	3225.0	3245.0

C\γ	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
0.0	3254.4	3262.1	3268.5	3274.8	3257.8	3219.5	3173.5	3118.9	3054.6	2970.7
30.0	3287.2	3296.6	3299.6	3294.9	3273.1	3239.1	3189.2	3123.6	3060.2	2997.1
60.0	3332.8	3342.1	3347.7	3338.7	3323.4	3281.2	3234.0	3166.2	3068.7	3003.1
90.0	3368.6	3383.9	3379.6	3372.0	3357.9	3323.8	3279.5	3208.8	3129.2	3062.3
120.0	3404.8	3413.3	3406.5	3397.9	3371.1	3327.2	3229.3	3159.8	3085.3	2992.0
150.0	3400.5	3413.3	3414.1	3380.1	3333.6	3278.3	3201.2	3124.5	3056.3	2982.2
180.0	3404.8	3423.1	3419.7	3397.9	3362.2	3316.2	3251.4	3185.0	3105.7	3056.3
210.0	3387.3	3403.9	3405.6	3389.4	3351.5	3300.8	3201.6	3138.1	3081.9	3007.8
240.0	3356.2	3361.7	3351.5	3309.3	3266.8	3213.1	3127.9	3065.3	3000.9	2910.6
270.0	3318.7	3329.4	3324.3	3303.8	3274.0	3239.5	3173.5	3104.9	3038.0	2953.7
300.0	3228.0	3251.8	3258.2	3260.4	3241.6	3218.2	3179.9	3130.0	3073.8	2998.4
330.0	3254.4	3274.0	3284.6	3288.9	3273.1	3230.5	3185.8	3129.2	3042.7	2986.0
360.0	3254.4	3262.1	3268.5	3274.8	3257.8	3219.5	3173.5	3118.9	3054.6	2970.7

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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	2904.3	2847.2	2662.3	2435.3	2131.1	1864.9	1602.5	1303.9	1171.8	1120.3
30.0	2908.5	2837.8	2710.4	2426.3	2166.9	1899.8	1593.1	1364.8	1179.1	1116.5
60.0	2929.8	2851.9	2708.7	2489.8	2188.2	1915.6	1561.2	1335.4	1199.1	1136.5
90.0	2992.4	2897.4	2733.4	2501.7	2137.5	1857.6	1591.4	1335.0	1225.1	1171.8
120.0	2912.3	2780.3	2486.0	2252.1	1901.1	1622.9	1333.3	1215.7	1175.2	1119.9
150.0	2900.0	2753.5	2479.1	2201.0	1908.8	1525.8	1301.3	1164.6	1093.9	1036.0
180.0	2984.3	2788.4	2542.6	2262.7	1915.2	1610.6	1277.5	1147.6	1079.0	1008.3
210.0	2919.6	2736.8	2445.1	2157.5	1864.0	1490.9	1270.7	1133.5	1087.9	1040.6
240.0	2847.2	2624.8	2373.1	2094.1	1763.9	1501.1	1281.3	1124.1	1080.7	1047.0
270.0	2891.9	2704.9	2509.4	2241.9	1874.3	1618.3	1392.1	1237.0	1183.3	1140.3
300.0	2939.2	2860.4	2666.1	2413.5	2123.9	1777.6	1493.4	1307.3	1191.9	1157.4
330.0	2921.3	2843.8	2702.8	2476.2	2155.4	1868.7	1512.6	1312.0	1192.3	1135.6
360.0	2904.3	2847.2	2662.3	2435.3	2131.1	1864.9	1602.5	1303.9	1171.8	1120.3

C\γ	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0
0.0	1067.5	1025.3	986.1	941.0	901.8	857.9	797.4	744.2	676.0	589.5
30.0	1064.5	1008.7	972.5	926.5	898.4	865.6	818.3	767.6	704.1	608.7
60.0	1087.9	1047.0	1007.0	968.7	938.4	896.2	857.0	807.6	754.8	692.6
90.0	1135.2	1100.7	1054.3	1016.4	972.5	925.6	887.7	834.5	795.7	746.3
120.0	1082.8	1035.1	995.9	958.4	900.9	864.3	830.2	792.3	754.4	716.9
150.0	972.1	932.4	890.3	846.8	826.4	808.5	792.3	777.0	754.0	706.3
180.0	972.1	942.7	919.7	909.0	895.8	875.8	853.6	809.3	759.5	691.8
210.0	997.6	963.1	939.3	916.3	903.1	885.6	849.4	802.5	740.8	638.1
240.0	1004.4	973.3	942.2	907.3	882.6	845.1	804.2	747.6	669.2	589.5
270.0	1084.1	1043.6	998.5	961.8	923.1	874.9	823.8	766.7	676.0	585.7
300.0	1115.6	1070.5	1023.6	972.1	929.5	882.2	826.4	768.0	705.4	610.4
330.0	1090.1	1055.1	1003.2	965.2	919.2	854.1	804.7	739.9	674.7	602.3
360.0	1067.5	1025.3	986.1	941.0	901.8	857.9	797.4	744.2	676.0	589.5

C\γ	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0
0.0	507.3	416.6	341.6	277.7	212.1	173.4	146.1	127.4	115.9	104.8
30.0	532.9	455.4	365.5	300.3	242.8	184.0	159.7	135.5	115.9	105.2
60.0	608.7	531.6	452.8	345.9	279.4	219.8	172.9	146.1	120.5	107.8
90.0	669.6	599.3	522.7	414.0	340.8	256.4	193.8	163.1	129.1	114.2
120.0	660.3	604.0	527.8	407.7	318.2	228.7	175.9	147.0	121.0	106.9
150.0	650.5	565.7	469.0	358.2	269.6	204.5	160.2	130.8	113.7	98.4
180.0	583.6	506.5	417.0	328.8	248.3	182.7	152.9	130.8	112.9	101.0
210.0	569.5	450.7	365.5	290.1	206.2	172.5	146.1	123.1	111.2	99.3
240.0	507.8	411.1	334.0	241.5	187.9	159.3	135.5	121.4	111.6	101.0
270.0	517.6	428.1	348.9	277.7	222.4	186.6	152.9	134.2	120.5	107.3
300.0	530.8	440.9	364.6	297.8	238.5	195.1	166.1	138.0	123.5	112.9
330.0	500.9	426.8	359.1	288.0	235.6	195.1	158.9	138.0	121.0	109.9
360.0	507.3	416.6	341.6	277.7	212.1	173.4	146.1	127.4	115.9	104.8

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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	96.3	89.9	81.8	75.8	71.1	64.7	59.2	50.3	45.6	41.3
30.0	95.8	89.0	82.6	75.0	69.9	63.5	58.4	51.1	45.6	40.5
60.0	99.7	88.2	81.4	75.4	69.0	63.5	57.9	48.6	43.4	37.9
90.0	101.0	90.7	81.8	75.0	67.7	61.8	55.4	47.3	41.7	35.8
120.0	95.4	82.6	74.1	67.7	61.8	56.2	46.9	41.7	37.1	30.7
150.0	88.6	80.1	71.6	66.0	60.1	53.7	46.4	40.5	34.9	30.2
180.0	90.3	79.7	72.8	67.3	60.1	53.7	46.4	40.5	35.8	31.5
210.0	91.6	83.5	75.8	70.7	64.7	56.2	48.6	43.9	37.9	33.7
240.0	93.3	86.0	77.5	72.4	66.9	60.1	52.4	47.3	41.7	37.1
270.0	99.7	91.6	83.5	78.0	70.3	63.9	56.2	49.0	44.3	39.2
300.0	101.8	94.6	85.2	80.1	73.3	67.3	59.2	52.4	47.3	40.5
330.0	101.8	93.7	86.9	80.5	74.1	68.6	62.2	52.8	47.3	40.9
360.0	96.3	89.9	81.8	75.8	71.1	64.7	59.2	50.3	45.6	41.3

C\γ	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0
0.0	35.4	32.4	29.0	25.6	23.0	20.0	17.9	14.9	11.5	7.2
30.0	35.4	30.7	27.3	24.3	21.7	19.6	17.5	14.5	11.1	7.2
60.0	33.2	29.8	26.0	23.0	20.4	17.9	16.2	13.6	10.2	7.2
90.0	31.5	28.1	23.4	21.3	19.2	16.6	14.5	12.4	9.8	6.8
120.0	27.7	24.7	21.3	20.0	17.5	14.9	13.2	9.8	7.2	6.4
150.0	27.3	23.9	21.7	19.6	17.5	15.3	12.4	9.8	7.2	6.0
180.0	28.1	25.1	22.2	20.4	17.9	15.8	12.8	10.2	6.8	6.0
210.0	30.7	26.8	23.9	20.4	18.7	16.6	12.8	9.8	6.8	6.0
240.0	32.4	29.0	26.0	22.6	20.0	17.9	13.6	11.1	7.2	6.4
270.0	34.5	31.5	28.1	24.3	20.9	19.2	15.3	11.5	7.7	6.8
300.0	36.6	33.2	29.0	26.0	22.6	20.4	18.3	14.9	10.2	7.7
330.0	36.6	33.2	29.4	26.0	23.4	20.4	18.3	15.3	11.5	7.7
360.0	35.4	32.4	29.0	25.6	23.0	20.0	17.9	14.9	11.5	7.2

C\γ	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.8	5.5	5.1	4.3	3.8	3.4	2.6	2.1	1.7	1.3
30.0	6.4	5.5	5.1	4.3	3.8	3.4	3.0	2.1	1.7	0.9
60.0	6.4	5.5	5.1	4.3	3.4	3.0	2.6	2.1	1.3	0.9
90.0	6.4	5.1	4.7	3.8	3.4	3.0	2.6	1.7	1.3	0.9
120.0	5.5	4.7	4.3	3.4	3.0	2.6	1.7	1.3	0.9	0.4
150.0	5.1	4.7	4.3	3.8	3.0	2.6	2.1	1.3	0.9	0.4
180.0	5.5	4.7	4.3	3.4	3.0	2.1	1.7	1.3	0.9	0.4
210.0	5.5	4.7	4.3	3.4	3.0	2.1	1.7	1.3	0.9	0.4
240.0	6.0	5.1	4.3	3.8	3.0	2.6	1.7	1.3	0.9	0.4
270.0	6.4	5.5	4.7	3.8	3.4	2.6	1.7	1.3	0.9	0.4
300.0	6.8	6.0	5.1	4.3	3.8	3.0	2.6	1.7	1.3	0.9
330.0	6.8	6.0	5.1	4.7	3.8	3.4	3.0	2.1	1.7	1.3
360.0	6.8	5.5	5.1	4.3	3.8	3.4	2.6	2.1	1.7	1.3

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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	0.4	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	0.4	0.4	0.4	0.0	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	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	0.9
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	0.9
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	0.4
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	0.0	0.4	0.4	0.4	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	0.9	0.9	0.9
330.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9	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	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
30.0	0.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
60.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
90.0	0.9	0.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
120.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.9	0.9
150.0	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.9	0.9	0.9
180.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.9
210.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.4	0.9
240.0	0.4	0.4	0.4	0.9	0.4	0.4	0.9	0.9	0.9	0.9
270.0	0.4	0.4	0.4	0.4	0.9	0.9	0.9	0.4	0.9	0.9
300.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
330.0	0.9	0.9	0.9	0.9	0.9	0.9	1.3	0.9	0.9	1.3
360.0	0.4	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

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C\γ	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0
0.0	1.3	1.3	1.3	1.3	1.3	1.3	1.7	2.1	2.6	2.6
30.0	0.9	1.3	1.3	1.3	1.3	1.7	1.7	2.1	2.6	3.0
60.0	1.3	1.3	1.3	1.3	1.3	1.7	1.7	2.1	2.1	3.0
90.0	0.9	1.3	1.3	1.3	1.3	1.7	2.1	2.1	2.6	3.0
120.0	0.9	1.3	1.3	1.3	1.7	2.1	2.6	3.0	3.4	3.8
150.0	0.9	1.3	1.3	1.3	1.7	2.1	2.6	3.0	3.4	3.8
180.0	0.9	0.9	1.3	1.3	1.7	2.1	2.6	3.0	3.4	3.8
210.0	0.9	0.9	1.3	1.7	1.7	2.1	2.6	3.0	3.4	3.8
240.0	0.9	1.3	1.3	1.7	1.7	2.1	2.6	3.0	3.4	3.8
270.0	1.3	1.3	1.3	1.7	2.1	2.1	2.6	3.0	3.4	4.3
300.0	1.3	1.3	1.3	1.3	1.3	1.7	1.7	2.1	2.6	3.0
330.0	0.9	1.3	1.3	1.3	1.3	1.7	1.7	2.1	2.6	3.0
360.0	1.3	1.3	1.3	1.3	1.3	1.3	1.7	2.1	2.6	2.6

C\γ	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0
0.0	3.4	3.4	3.8	4.7	5.1	5.1	6.0	6.4	7.2	7.7
30.0	3.4	3.4	3.8	4.3	4.7	5.5	6.0	6.4	6.8	7.7
60.0	3.0	3.4	3.8	4.3	4.7	5.1	5.5	6.4	6.8	7.2
90.0	3.4	3.4	4.3	4.3	4.7	5.5	6.0	6.4	6.8	7.7
120.0	4.3	4.7	5.1	6.0	6.8	7.2	8.1	8.5	9.4	10.2
150.0	4.3	4.7	5.5	6.0	6.4	7.2	8.1	8.9	9.4	10.2
180.0	4.3	4.7	5.5	6.0	6.4	7.2	7.7	8.5	9.4	10.2
210.0	4.3	5.1	5.5	6.0	6.8	7.2	8.1	8.9	9.4	10.2
240.0	4.7	5.1	5.5	6.0	6.8	7.2	8.1	8.9	9.8	10.6
270.0	4.7	5.1	5.5	6.4	6.8	7.7	8.5	8.9	9.8	10.6
300.0	3.4	3.4	4.3	4.7	5.1	5.5	6.0	6.8	7.2	7.7
330.0	3.0	3.8	3.8	4.7	5.1	5.5	6.0	6.4	7.2	7.7
360.0	3.4	3.4	3.8	4.7	5.1	5.1	6.0	6.4	7.2	7.7

C\γ	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	149.0
0.0	8.1	8.9	9.4	10.2	11.1	11.5	12.4	13.2	13.6	14.5
30.0	8.1	8.5	9.4	10.2	10.6	11.5	12.4	12.8	13.6	14.5
60.0	8.1	8.5	9.4	10.2	10.6	11.5	12.4	13.2	13.6	14.5
90.0	8.1	8.9	9.4	10.2	11.1	11.5	12.4	13.2	13.6	14.5
120.0	11.1	11.9	12.8	14.1	14.9	15.8	16.6	17.9	19.2	20.0
150.0	11.5	12.4	13.2	14.1	15.3	15.8	17.0	18.3	19.6	20.0
180.0	11.1	12.4	13.2	14.1	14.9	16.2	17.5	18.3	19.2	20.0
210.0	11.5	12.4	12.8	14.1	14.9	16.2	17.0	17.9	19.2	20.0
240.0	11.5	12.4	13.2	14.1	15.3	16.2	17.5	18.3	19.6	20.4
270.0	11.5	12.4	13.2	14.5	15.8	16.2	17.5	18.7	19.6	20.4
300.0	8.5	8.9	9.8	10.2	11.1	11.9	12.4	13.2	14.1	14.5
330.0	8.5	8.9	9.8	10.6	11.1	11.5	12.4	13.2	14.1	14.9
360.0	8.1	8.9	9.4	10.2	11.1	11.5	12.4	13.2	13.6	14.5

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Intensity Data [cd]

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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	15.3	16.2	17.0	17.9	18.7	19.6	20.4	20.4	21.7	22.6
30.0	15.3	16.2	16.6	17.9	18.7	19.6	20.4	20.4	21.3	22.6
60.0	15.3	16.2	17.0	17.9	19.2	19.6	20.4	20.9	21.7	22.6
90.0	15.3	16.6	17.0	17.9	18.7	19.6	20.4	20.9	21.7	22.6
120.0	20.4	21.3	22.6	23.9	24.7	26.0	26.8	28.5	29.4	30.2
150.0	20.9	21.3	22.6	23.9	24.7	26.4	27.3	28.1	29.4	30.2
180.0	20.4	21.3	22.6	23.9	25.1	26.0	26.8	28.5	29.4	30.2
210.0	20.4	21.7	23.0	23.9	25.1	26.0	27.3	28.5	29.8	30.7
240.0	20.9	21.7	23.0	24.3	25.6	26.8	27.7	28.5	29.8	30.7
270.0	20.9	22.2	23.0	24.3	25.6	26.8	27.7	29.0	30.2	31.1
300.0	15.8	16.6	17.5	17.9	19.2	20.0	20.4	21.3	22.2	23.0
330.0	15.3	16.6	17.0	17.9	19.2	20.0	20.4	20.9	22.2	22.6
360.0	15.3	16.2	17.0	17.9	18.7	19.6	20.4	20.4	21.7	22.6

C\γ	160.0	161.0	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0
0.0	23.4	24.3	25.1	26.4	27.3	28.5	29.8	30.7	31.9	32.8
30.0	23.4	24.7	25.6	26.4	27.7	28.5	29.4	30.7	31.9	32.8
60.0	23.9	24.7	25.6	26.8	27.7	28.5	29.8	31.1	31.9	32.8
90.0	23.9	24.7	25.6	26.8	27.7	29.0	29.8	30.7	31.9	32.8
120.0	31.1	32.4	33.7	34.1	34.9	35.8	36.6	37.5	38.3	39.2
150.0	31.1	32.4	33.7	34.5	34.9	35.8	37.1	37.5	38.3	39.2
180.0	31.9	32.8	33.7	34.5	35.4	36.2	37.1	37.5	38.3	39.2
210.0	31.5	32.8	33.7	34.5	35.4	36.2	37.1	37.9	38.8	39.2
240.0	31.9	32.8	33.7	34.5	35.4	36.2	37.1	37.9	38.8	39.6
270.0	31.9	33.2	34.1	34.5	35.8	36.2	37.1	37.9	38.8	39.2
300.0	23.9	24.7	25.6	26.4	27.3	28.5	29.4	30.7	31.9	32.8
330.0	23.4	24.7	25.6	26.4	27.3	28.5	29.8	31.1	31.9	33.2
360.0	23.4	24.3	25.1	26.4	27.3	28.5	29.8	30.7	31.9	32.8

C\γ	170.0	171.0	172.0	173.0	174.0	175.0	176.0	177.0	178.0	179.0
0.0	34.1	34.9	35.8	36.2	36.6	37.5	38.3	38.8	39.6	40.5
30.0	33.7	34.9	35.4	36.2	37.1	37.9	38.8	39.2	40.0	40.9
60.0	34.1	34.9	35.8	36.6	37.1	37.9	38.3	39.2	40.0	40.5
90.0	34.5	35.4	35.8	36.6	37.5	37.9	38.8	39.6	40.0	40.9
120.0	40.0	40.5	40.5	40.9	40.9	41.3	41.3	41.3	41.3	41.3
150.0	40.0	40.0	40.5	40.9	40.9	41.3	41.3	41.3	41.3	41.3
180.0	40.0	40.5	40.5	40.9	40.9	40.9	40.9	41.3	41.3	41.3
210.0	40.0	40.5	40.9	40.9	41.3	40.9	41.3	41.3	41.3	41.3
240.0	40.0	40.5	40.5	40.9	40.9	41.3	41.3	41.3	41.3	41.3
270.0	39.6	40.5	40.9	41.3	41.3	41.3	41.7	41.7	41.7	41.7
300.0	33.7	34.5	35.4	36.2	36.6	37.5	38.3	38.8	39.6	40.5
330.0	34.1	34.9	35.4	35.8	37.1	37.5	38.3	39.2	40.0	40.5
360.0	34.1	34.9	35.8	36.2	36.6	37.5	38.3	38.8	39.6	40.5

Intensity Data [cd]

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C\γ	180.0
0.0	40.9
30.0	41.3
60.0	41.3
90.0	41.3
120.0	40.9
150.0	41.3
180.0	40.9
210.0	41.3
240.0	41.3
270.0	41.3
300.0	40.9
330.0	41.3
360.0	40.9

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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	3608.08	0.00	0.00	0.00	0.00
1	3622.33	3.46	3.46	3.46	3.46
2	3638.27	10.42	13.88	10.42	13.88
3	3653.18	17.44	31.32	17.44	31.32
4	3669.93	24.51	55.83	24.51	55.83
5	3677.21	31.61	87.44	31.61	87.44
6	3663.47	38.58	126.02	38.58	126.02
7	3630.95	45.28	171.29	45.28	171.29
8	3590.31	51.68	222.97	51.68	222.97
9	3538.27	57.77	280.75	57.77	280.75
10	3475.69	63.47	344.22	63.47	344.22
11	3414.67	68.85	413.07	68.85	413.07
12	3347.33	73.92	486.99	73.92	486.99
13	3290.11	78.77	565.76	78.77	565.76
14	3254.08	83.77	649.52	83.77	649.52
15	3237.18	89.11	738.64	89.11	738.64
16	3235.94	94.85	833.49	94.85	833.49
17	3251.74	101.03	934.52	101.03	934.52
18	3278.64	107.67	1042.19	107.67	1042.19
19	3307.61	114.59	1156.78	114.59	1156.78
20	3333.13	121.54	1278.32	121.54	1278.32
21	3346.27	128.26	1406.58	128.26	1406.58
22	3346.66	134.50	1541.08	134.50	1541.08
23	3334.02	140.18	1681.26	140.18	1681.26
24	3307.18	145.20	1826.46	145.20	1826.46
25	3265.62	149.45	1975.91	149.45	1975.91
26	3202.22	152.67	2128.58	152.67	2128.58
27	3137.86	155.11	2283.69	155.11	2283.69
28	3066.44	157.08	2440.77	157.08	2440.77
29	2993.35	158.54	2599.31	158.54	2599.31
30	2920.90	159.68	2759.00	159.68	2759.00
31	2793.93	159.04	2918.03	159.04	2918.03
32	2584.92	154.10	3072.13	154.10	3072.13
33	2329.34	144.78	3216.91	144.78	3216.91
34	2010.86	131.35	3348.25	131.35	3348.25
35	1712.82	115.64	3463.90	115.64	3463.90
36	1434.20	100.20	3564.10	100.20	3564.10
37	1248.41	87.49	3651.59	87.49	3651.59
38	1154.94	80.22	3731.81	80.22	3731.81
39	1102.51	77.05	3808.86	77.05	3808.86
40	1056.15	75.29	3884.15	75.29	3884.15

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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	1016.47	73.81	3957.96	73.81	3957.96
42	977.70	72.45	4030.41	72.45	4030.41
43	940.79	71.07	4101.47	71.07	4101.47
44	907.63	69.76	4171.24	69.76	4171.24
45	869.65	68.30	4239.54	68.30	4239.54
46	828.76	66.42	4305.96	66.42	4305.96
47	779.77	63.98	4369.94	63.98	4369.94
48	722.05	60.71	4430.65	60.71	4430.65
49	648.18	56.27	4486.92	56.27	4486.92
50	569.95	50.79	4537.71	50.79	4537.71
51	486.38	44.69	4582.40	44.69	4582.40
52	405.70	38.28	4620.68	38.28	4620.68
53	318.98	31.52	4652.20	12.58	4633.26
54	250.15	25.08	4677.29	0.00	4633.26
55	196.51	19.94	4697.22	0.00	4633.26
56	160.09	16.11	4713.34	0.00	4633.26
57	136.27	13.55	4726.89	0.00	4633.26
58	118.06	11.76	4738.65	0.00	4633.26
59	105.71	10.46	4749.11	0.00	4633.26
60	96.27	9.54	4758.65	0.00	4633.26
61	87.47	8.77	4767.42	0.00	4633.26
62	79.59	8.05	4775.47	0.00	4633.26
63	73.66	7.45	4782.92	0.00	4633.26
64	67.41	6.92	4789.85	0.00	4633.26
65	61.09	6.36	4796.21	0.00	4633.26
66	54.10	5.75	4801.95	0.00	4633.26
67	47.11	5.09	4807.04	0.00	4633.26
68	41.89	4.51	4811.55	0.00	4633.26
69	36.60	4.00	4815.55	0.00	4633.26
70	32.44	3.55	4819.10	0.00	4633.26
71	29.04	3.18	4822.28	0.00	4633.26
72	25.59	2.84	4825.12	0.00	4633.26
73	22.79	2.53	4827.65	0.00	4633.26
74	20.23	2.26	4829.91	0.00	4633.26
75	17.89	2.01	4831.92	0.00	4633.26
76	15.23	1.76	4833.68	0.00	4633.26
77	12.32	1.47	4835.15	0.00	4633.26
78	8.95	1.14	4836.29	0.00	4633.26
79	6.78	0.84	4837.13	0.00	4633.26
80	6.14	0.70	4837.83	0.00	4633.26
81	5.25	0.62	4838.44	0.00	4633.26

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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	4.69	0.54	4838.98	0.00	4633.26
83	3.94	0.47	4839.45	0.00	4633.26
84	3.37	0.40	4839.85	0.00	4633.26
85	2.80	0.34	4840.19	0.00	4633.26
86	2.24	0.28	4840.46	0.00	4633.26
87	1.63	0.21	4840.68	0.00	4633.26
88	1.17	0.15	4840.83	0.00	4633.26
89	0.71	0.10	4840.94	0.00	4633.26
90	0.43	0.06	4841.00	0.00	4633.26
91	0.43	0.05	4841.04	0.00	4633.26
92	0.43	0.05	4841.09	0.00	4633.26
93	0.43	0.05	4841.14	0.00	4633.26
94	0.43	0.05	4841.19	0.00	4633.26
95	0.39	0.04	4841.23	0.00	4633.26
96	0.43	0.04	4841.28	0.00	4633.26
97	0.43	0.05	4841.32	0.00	4633.26
98	0.43	0.05	4841.37	0.00	4633.26
99	0.43	0.05	4841.42	0.00	4633.26
100	0.39	0.04	4841.46	0.00	4633.26
101	0.43	0.04	4841.51	0.00	4633.26
102	0.43	0.05	4841.55	0.00	4633.26
103	0.43	0.05	4841.60	0.00	4633.26
104	0.43	0.05	4841.65	0.00	4633.26
105	0.43	0.05	4841.69	0.00	4633.26
106	0.43	0.05	4841.74	0.00	4633.26
107	0.46	0.05	4841.79	0.00	4633.26
108	0.50	0.05	4841.84	0.00	4633.26
109	0.53	0.05	4841.89	0.00	4633.26
110	0.57	0.06	4841.95	0.00	4633.26
111	0.60	0.06	4842.01	0.00	4633.26
112	0.64	0.06	4842.07	0.00	4633.26
113	0.67	0.07	4842.14	0.00	4633.26
114	0.67	0.07	4842.21	0.00	4633.26
115	0.67	0.07	4842.28	0.00	4633.26
116	0.78	0.07	4842.35	0.00	4633.26
117	0.78	0.08	4842.42	0.00	4633.26
118	0.82	0.08	4842.50	0.00	4633.26
119	0.89	0.08	4842.58	0.00	4633.26
120	0.99	0.09	4842.67	0.00	4633.26
121	1.21	0.10	4842.77	0.00	4633.26
122	1.28	0.12	4842.89	0.00	4633.26

R854 WNL (CRI90 1400mA 70D)

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	1.38	0.12	4843.01	0.00	4633.26
124	1.53	0.13	4843.15	0.00	4633.26
125	1.88	0.15	4843.30	0.00	4633.26
126	2.17	0.18	4843.48	0.00	4633.26
127	2.56	0.21	4843.69	0.00	4633.26
128	2.95	0.24	4843.93	0.00	4633.26
129	3.41	0.27	4844.20	0.00	4633.26
130	3.83	0.31	4844.51	0.00	4633.26
131	4.19	0.33	4844.84	0.00	4633.26
132	4.72	0.37	4845.21	0.00	4633.26
133	5.25	0.40	4845.61	0.00	4633.26
134	5.79	0.44	4846.05	0.00	4633.26
135	6.35	0.47	4846.53	0.00	4633.26
136	6.99	0.51	4847.04	0.00	4633.26
137	7.63	0.55	4847.59	0.00	4633.26
138	8.27	0.59	4848.18	0.00	4633.26
139	8.98	0.63	4848.80	0.00	4633.26
140	9.80	0.67	4849.47	0.00	4633.26
141	10.54	0.71	4850.18	0.00	4633.26
142	11.29	0.75	4850.93	0.00	4633.26
143	12.21	0.78	4851.71	0.00	4633.26
144	13.06	0.82	4852.53	0.00	4633.26
145	13.81	0.86	4853.39	0.00	4633.26
146	14.77	0.89	4854.28	0.00	4633.26
147	15.69	0.92	4855.20	0.00	4633.26
148	16.58	0.95	4856.15	0.00	4633.26
149	17.36	0.97	4857.12	0.00	4633.26
150	18.03	0.98	4858.11	0.00	4633.26
151	18.99	1.00	4859.11	0.00	4633.26
152	19.91	1.02	4860.12	0.00	4633.26
153	20.94	1.03	4861.16	0.00	4633.26
154	22.04	1.05	4862.21	0.00	4633.26
155	23.04	1.06	4863.28	0.00	4633.26
156	23.85	1.07	4864.34	0.00	4633.26
157	24.67	1.06	4865.40	0.00	4633.26
158	25.74	1.06	4866.46	0.00	4633.26
159	26.59	1.05	4867.51	0.00	4633.26
160	27.62	1.04	4868.55	0.00	4633.26
161	28.68	1.03	4869.58	0.00	4633.26
162	29.60	1.01	4870.60	0.00	4633.26
163	30.49	0.99	4871.59	0.00	4633.26

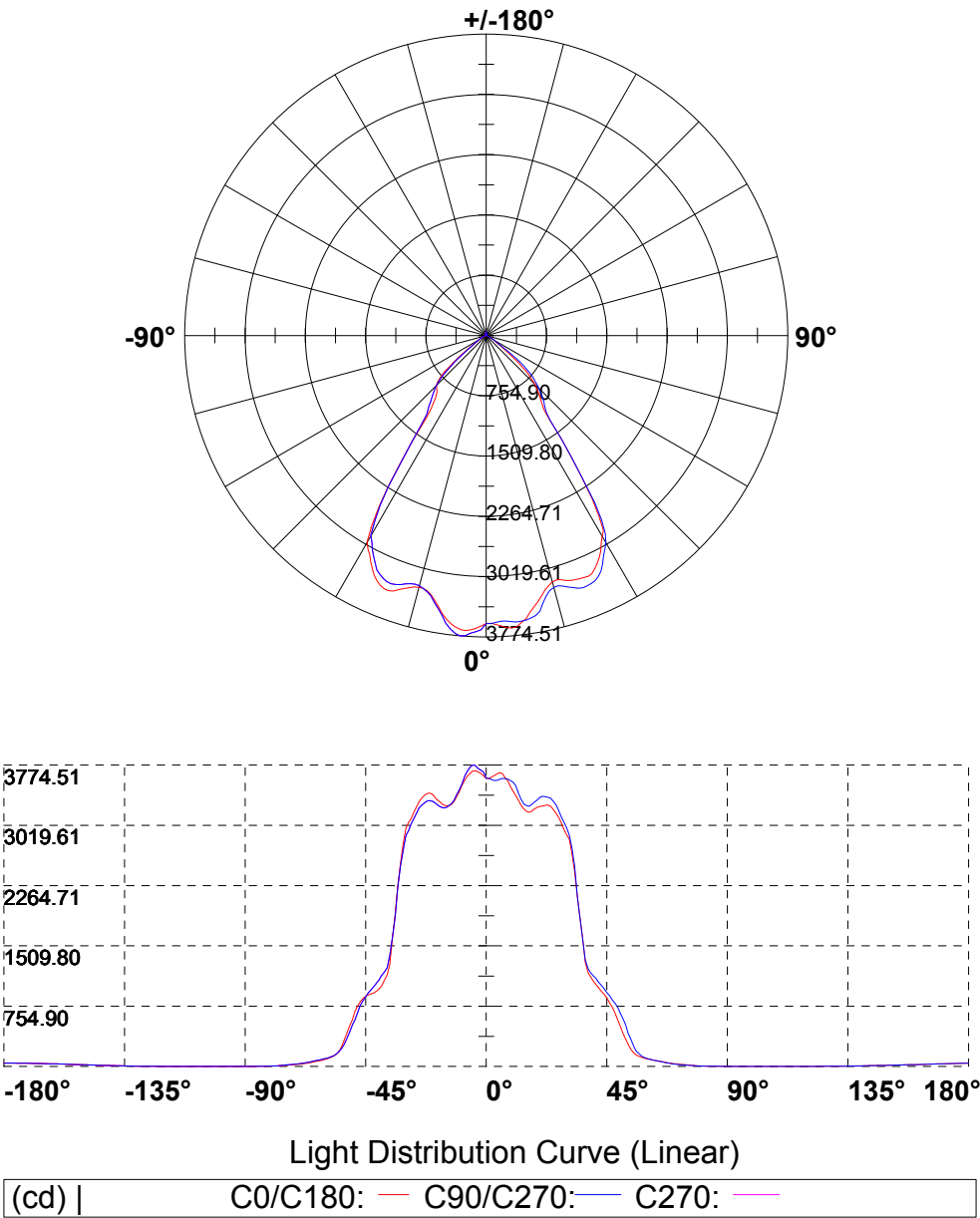
R854 WNL (CRI90 1400mA 70D)

Zonal flux distribution table

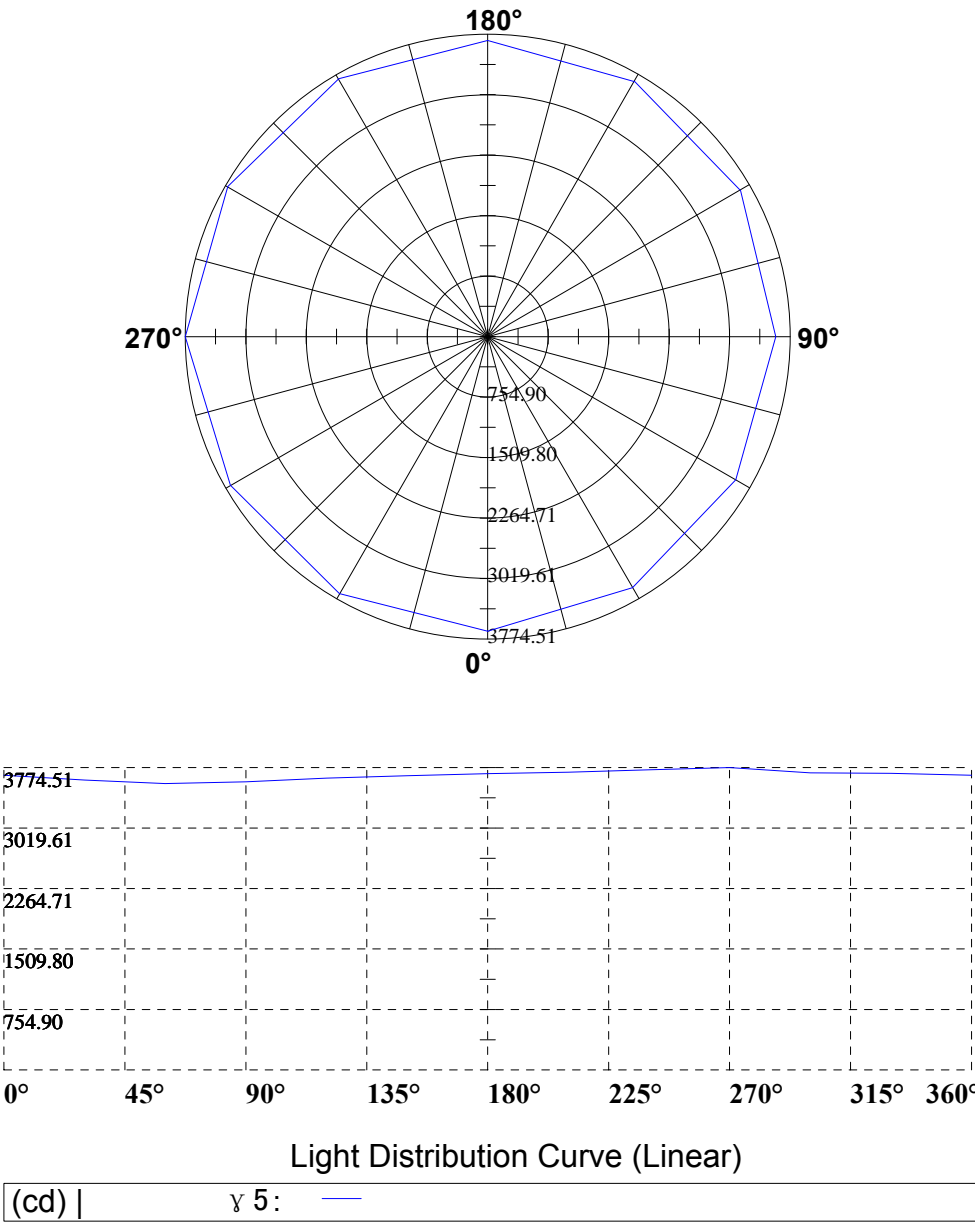
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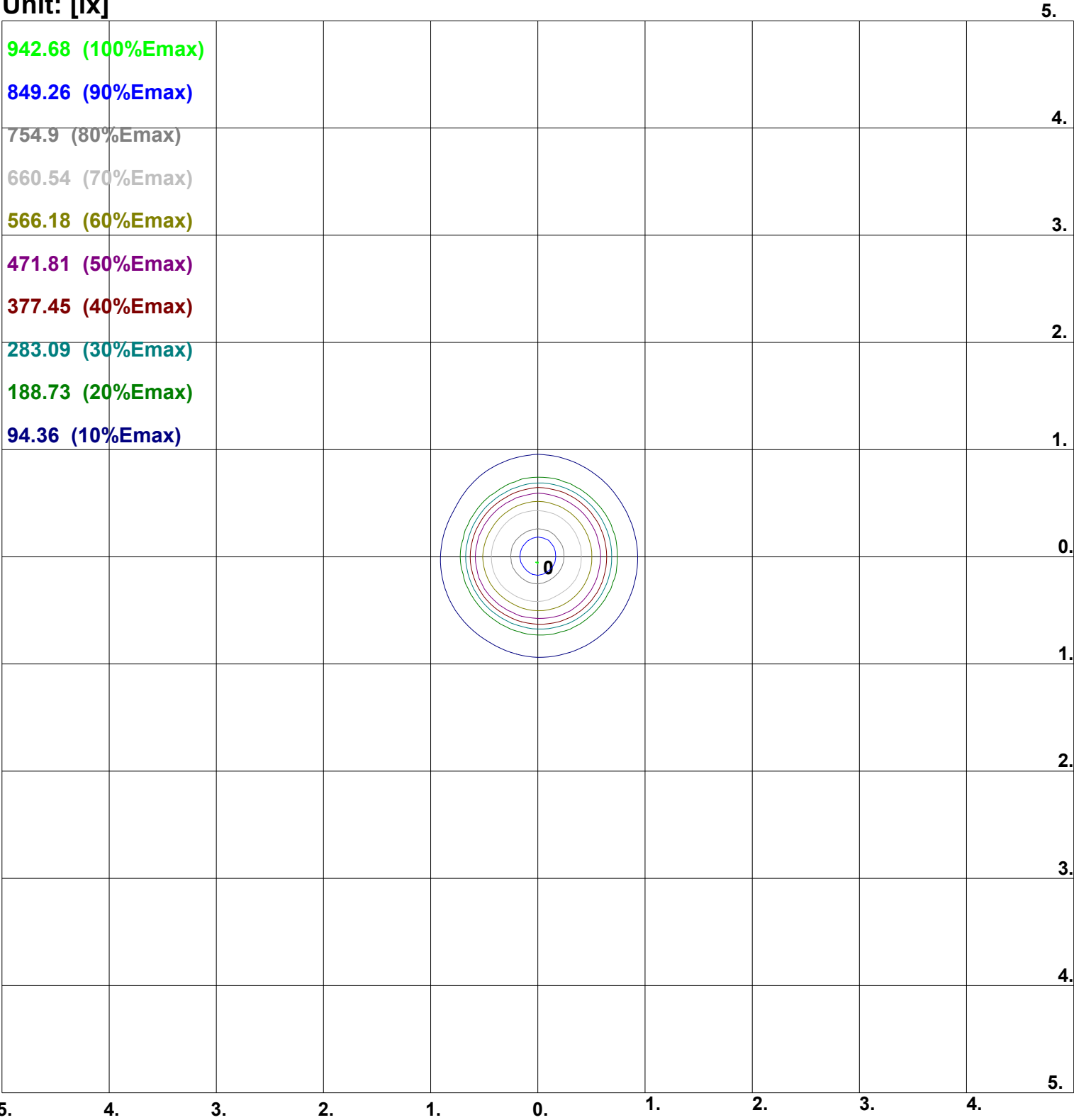
[illegible]

Light Distribution Curve [Unit: cd]



Horizontal cone through Max.cd [Unit: cd]





Coordinate Scale: d/h
Height: 2 m
Max Illuminance : 943.63lx

Luminance Limiting Curve (There is not luminous side)

Diameter: 140mm

Length: -140mm

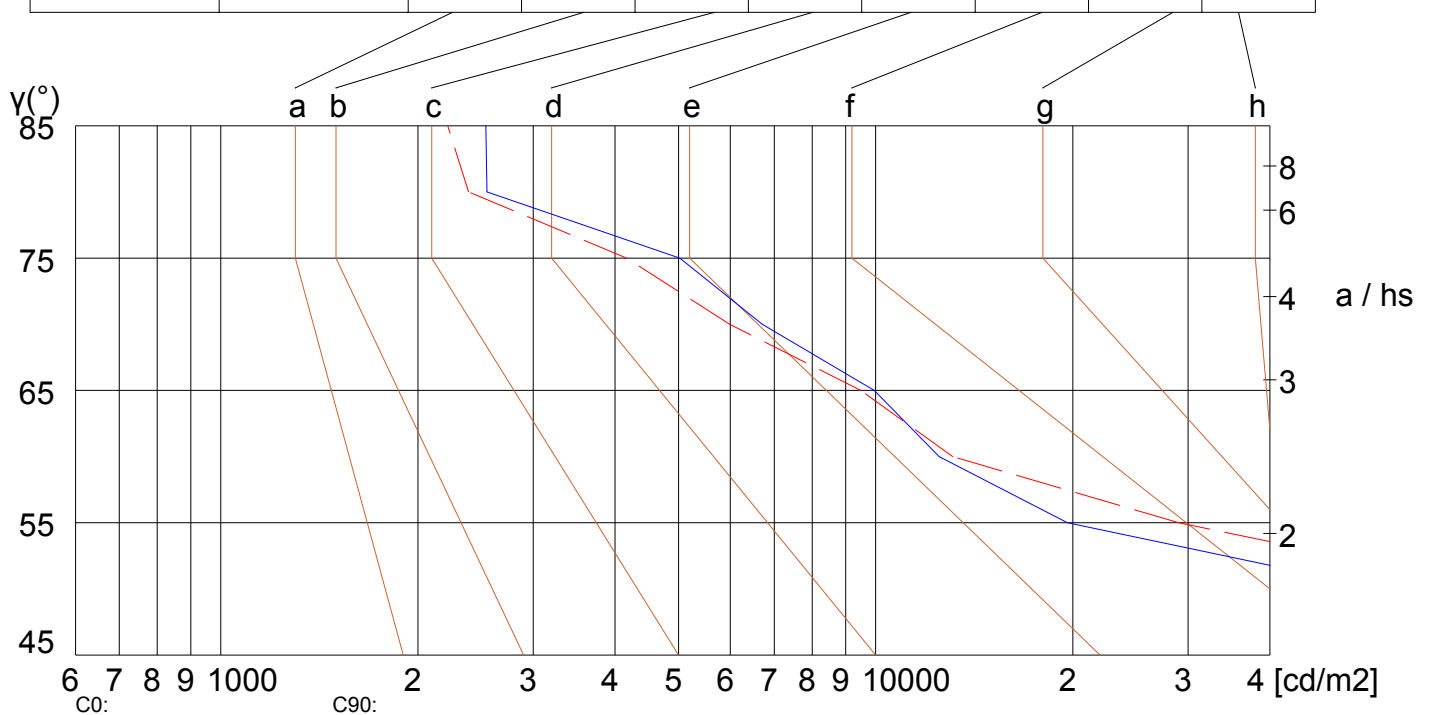
Width: -140mm

Height: 100mm

(cd/m²)

γ	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	85002	67646	29031	13111	9490	5985	4168	2389	2222
C90	78783	51251	19627	12502	9948	6712	5023	2549	2539

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 1400mA 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	COEFFCIENTS OF UTILIZATION FOR RHOFC=20															
0	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.87
1	0.97	0.97	0.96	0.96	0.95	0.94	0.92	0.91	0.90	0.88	0.86	0.85	0.82	0.80	0.79	0.75
2	0.89	0.88	0.87	0.88	0.87	0.85	0.85	0.83	0.82	0.81	0.79	0.77	0.76	0.74	0.72	0.68
3	0.82	0.80	0.79	0.81	0.79	0.77	0.78	0.76	0.74	0.75	0.73	0.70	0.71	0.68	0.66	0.62
4	0.75	0.73	0.72	0.74	0.72	0.71	0.72	0.70	0.67	0.70	0.67	0.64	0.67	0.63	0.60	0.57
5	0.69	0.67	0.66	0.68	0.66	0.65	0.67	0.64	0.62	0.65	0.61	0.58	0.62	0.58	0.55	0.52
6	0.63	0.62	0.61	0.63	0.61	0.59	0.62	0.59	0.57	0.60	0.57	0.54	0.58	0.54	0.51	0.47
7	0.58	0.57	0.56	0.58	0.56	0.55	0.58	0.54	0.52	0.56	0.52	0.49	0.55	0.50	0.47	0.44
8	0.54	0.53	0.52	0.54	0.52	0.50	0.54	0.50	0.48	0.53	0.49	0.46	0.51	0.47	0.43	0.40
9	0.50	0.49	0.48	0.50	0.48	0.47	0.50	0.47	0.45	0.49	0.45	0.42	0.48	0.44	0.40	0.37
10	0.47	0.45	0.44	0.47	0.45	0.43	0.47	0.44	0.41	0.46	0.42	0.39	0.45	0.41	0.37	0.35

