

## R854 WNL (CRI90 1050mA 20D)

Luminaire Name: R854 WNL (CRI90 1050mA 20D)

Report NO.: 01313217031102A

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: 230.49 V

Current: 0.1861 A

Power: 41.497 W

Power Factor: 0.9672

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

Width: -140mm

Height: 100mm

Optical Component: 20D Reflector DC(V:36.09V I:1.015A P:38.21W)

## Photometric Results

Lumens: 3947.31 lm

Efficiency: 88.47%

Central Intensity: 19526.06cd

Maximum Intensity: 19790.49cd

Beam Angle(10%): Left: -22.4 Right:21.8

Maximum s/h: C0\_180: 0.17 C90\_270: 0.18

Effective Luminous Flux: 2813.48 lm

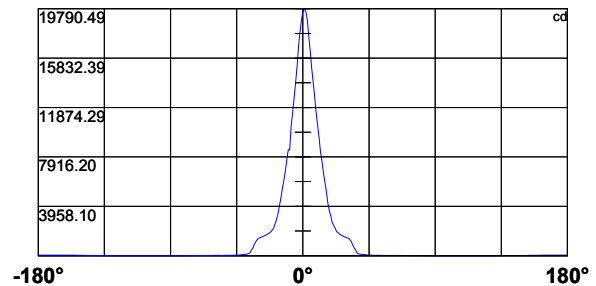
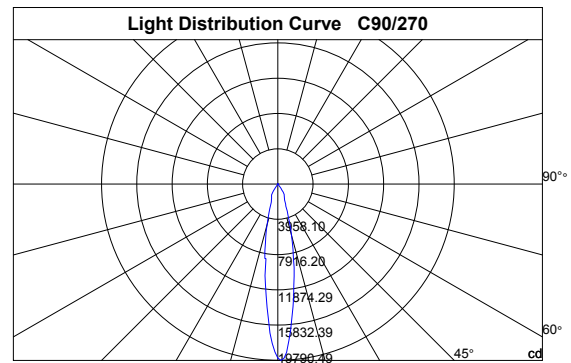
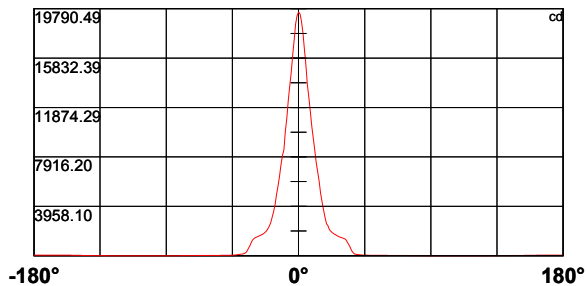
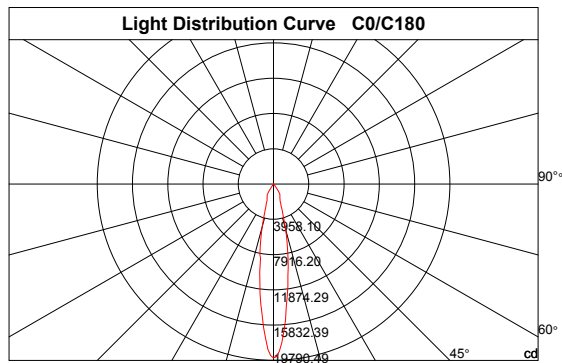
Angle of maximum intensity: C:90.0 G:1.0

Half Peak Side Angle(50%): Left: -9.3 Right:9.6

Up Flux Rate: 0.93%

Down Flux Rate: 87.54%

CIE Classification: Direct



## R854 WNL (CRI90 1050mA 20D)

### Intensity Data [cd]

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C\γ	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
0.0	19526.1	19356.0	18742.6	17839.6	16536.1	15334.9	13775.8	12651.3	11548.0	10380.8
30.0	19526.1	19513.6	19028.0	18359.2	16957.8	15816.2	14674.6	13396.7	12344.6	11041.1
60.0	19526.1	19688.3	19364.5	18653.2	17515.8	16378.5	14870.5	13946.2	12864.2	11505.4
90.0	19526.1	19790.5	19551.9	18904.5	17613.8	16455.2	15070.8	13878.0	12736.5	11475.6
120.0	19526.1	19432.7	18840.6	18107.9	16625.5	15415.8	14018.6	12864.2	11556.5	10483.1
150.0	19526.1	19360.3	18746.9	17656.4	16510.5	15300.8	13716.2	12549.0	11130.5	10248.8
180.0	19526.1	19236.7	18555.2	17273.0	16114.4	14725.7	13558.6	12429.8	10994.2	9997.5
210.0	19526.1	19015.2	18061.1	17021.7	15880.1	14346.6	13192.2	12093.2	10904.8	9942.1
240.0	19526.1	18819.3	17890.7	16587.2	15420.0	14248.6	12919.6	11824.9	10483.1	8512.6
270.0	19526.1	18832.1	17869.4	16732.0	15130.4	13903.6	12536.3	11416.0	10376.6	8476.3
300.0	19526.1	19155.8	18367.8	17119.7	15884.4	14636.3	13017.6	11829.1	10555.5	9584.3
330.0	19526.1	19245.3	18533.9	17554.2	15969.5	14713.0	13290.2	12118.8	11007.0	9690.8
360.0	19526.1	19356.0	18742.6	17839.6	16536.1	15334.9	13775.8	12651.3	11548.0	10380.8

C\γ	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
0.0	9439.5	8532.1	7526.9	6721.8	5972.1	5005.1	4327.8	3688.9	3126.6	2560.1
30.0	10095.5	9145.5	8208.4	7181.8	6372.5	5473.7	4736.8	4051.0	3237.4	2760.3
60.0	10581.0	9656.7	8574.7	7697.2	6619.5	5840.0	5218.1	4268.2	3625.0	3079.8
90.0	10495.9	9546.0	8366.0	7535.4	6628.1	5878.4	5154.2	4242.6	3637.8	3203.3
120.0	8487.4	8487.4	7673.8	6648.5	5914.6	5215.1	4441.6	3839.7	3246.7	2832.7
150.0	8427.4	8143.2	7342.8	6467.1	5757.8	5080.5	4241.8	3762.2	3094.7	2697.7
180.0	8477.6	8041.4	7220.2	6309.0	5584.9	4925.5	4105.5	3550.4	3064.4	2625.7
210.0	8443.1	7999.7	7154.6	6119.9	5402.1	4723.1	3993.9	3446.9	2920.4	2567.3
240.0	8512.6	7678.5	6892.6	6157.4	5341.6	4671.6	4051.0	3318.7	2874.0	2523.0
270.0	8476.3	7680.2	6697.1	6017.2	5356.1	4612.0	4000.7	3354.9	2884.7	2519.6
300.0	8702.5	7765.4	7020.0	6325.6	5452.4	4822.0	4212.8	3531.3	3011.6	2598.4
330.0	8924.0	7940.0	7152.0	6419.3	5520.5	4966.8	4110.6	3510.0	2977.5	2517.5
360.0	9439.5	8532.1	7526.9	6721.8	5972.1	5005.1	4327.8	3688.9	3126.6	2560.1

C\γ	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
0.0	2402.5	2100.9	1956.0	1860.6	1762.7	1686.8	1619.5	1548.4	1495.1	1456.4
30.0	2411.0	2411.0	2014.4	1885.8	1792.9	1706.0	1641.7	1585.0	1518.2	1476.0
60.0	2581.4	2415.2	2091.9	1922.8	1840.2	1727.7	1660.4	1601.2	1539.4	1497.3
90.0	2641.0	2415.2	2209.9	1931.8	1829.5	1723.9	1657.9	1599.9	1528.4	1485.8
120.0	2500.0	2169.9	2003.3	1885.3	1786.9	1716.2	1642.1	1568.0	1519.4	1473.4
150.0	2392.2	2124.3	1967.5	1855.9	1747.3	1682.6	1617.8	1551.4	1511.3	1467.9
180.0	2342.4	2133.3	1961.6	1856.8	1749.9	1689.0	1627.2	1564.2	1518.6	1475.6
210.0	2297.7	2052.3	1925.0	1832.1	1743.5	1678.3	1611.9	1551.8	1508.8	1463.2
240.0	2227.8	2056.6	1913.9	1823.1	1750.7	1661.7	1597.4	1545.8	1497.7	1453.0
270.0	2191.2	2034.0	1900.2	1812.5	1738.4	1663.4	1608.5	1551.0	1493.9	1450.0
300.0	2385.4	2060.4	1891.3	1801.0	1723.9	1649.8	1598.7	1550.5	1493.9	1457.7
330.0	2415.2	2071.1	1912.2	1833.4	1726.9	1659.6	1599.9	1543.7	1493.9	1456.0
360.0	2402.5	2100.9	1956.0	1860.6	1762.7	1686.8	1619.5	1548.4	1495.1	1456.4

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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	1416.3	1378.4	1296.6	1109.6	911.6	705.4	437.9	263.7	138.4	111.6
30.0	1423.6	1386.5	1299.2	1108.8	910.7	704.6	440.5	273.5	174.6	122.7
60.0	1450.0	1411.2	1302.6	1129.7	855.8	647.9	482.2	255.2	160.2	133.3
90.0	1442.3	1387.0	1276.2	1099.4	815.7	602.3	434.5	201.5	139.7	121.8
120.0	1405.3	1298.8	1099.8	884.7	656.0	414.0	255.2	162.7	126.9	106.9
150.0	1408.7	1294.5	1117.3	830.2	609.1	377.4	231.7	159.7	134.6	115.9
180.0	1408.3	1284.3	1097.3	811.5	601.9	379.1	233.9	166.1	140.1	121.8
210.0	1381.8	1249.8	1030.0	817.0	607.0	359.5	221.5	153.8	130.3	113.7
240.0	1401.9	1266.0	1085.8	808.9	599.8	405.9	224.9	144.0	121.0	98.4
270.0	1407.0	1286.8	1114.3	907.3	619.8	453.7	237.7	155.9	132.5	113.3
300.0	1421.0	1368.2	1265.1	1055.1	841.3	615.5	397.0	204.0	136.7	121.0
330.0	1408.7	1369.5	1275.8	1079.0	872.0	656.4	417.9	252.6	135.5	117.6
360.0	1416.3	1378.4	1296.6	1109.6	911.6	705.4	437.9	263.7	138.4	111.6

C\γ	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0
0.0	96.7	83.5	74.5	62.6	54.5	46.9	40.9	37.1	33.7	30.7
30.0	106.1	94.6	87.3	66.9	56.7	48.1	42.2	37.1	33.2	30.2
60.0	111.6	103.5	95.4	66.0	59.6	51.1	42.6	37.9	34.1	31.1
90.0	105.2	94.6	86.5	66.5	60.9	52.0	42.2	37.1	33.2	30.7
120.0	91.6	80.1	71.6	65.2	52.4	46.0	37.9	34.5	31.5	29.4
150.0	105.6	93.3	70.3	61.8	52.0	44.3	38.3	34.1	31.5	29.0
180.0	115.4	96.3	68.6	60.5	50.7	43.4	37.1	33.7	31.1	28.5
210.0	106.1	96.3	68.2	59.6	47.3	41.7	36.2	31.9	29.8	27.7
240.0	87.3	75.4	67.7	59.6	47.3	42.2	37.1	31.9	29.8	28.1
270.0	101.4	91.6	67.7	59.6	50.7	42.6	37.9	34.1	31.1	29.4
300.0	105.2	100.1	89.5	60.1	54.1	46.0	39.6	35.8	31.9	30.2
330.0	105.2	94.6	86.9	61.3	53.7	46.4	39.6	36.2	32.8	31.1
360.0	96.7	83.5	74.5	62.6	54.5	46.9	40.9	37.1	33.7	30.7

C\γ	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0
0.0	29.0	28.1	26.4	25.6	24.7	23.9	23.4	23.4	23.4	23.9
30.0	28.5	26.8	25.6	24.3	23.4	23.0	22.2	22.2	22.6	22.6
60.0	29.4	26.8	25.6	24.3	23.4	22.2	21.7	21.3	21.3	21.3
90.0	29.0	26.4	25.1	24.3	22.6	22.2	21.7	20.9	20.9	20.9
120.0	27.3	26.0	24.3	23.0	22.6	21.7	21.3	20.9	21.3	21.3
150.0	27.3	26.0	24.7	23.4	22.6	22.2	21.7	21.7	21.7	21.7
180.0	26.8	26.0	24.3	23.4	22.6	22.2	21.7	21.7	21.7	22.2
210.0	26.0	25.1	23.9	23.0	22.6	21.7	21.7	21.7	22.2	22.6
240.0	26.4	25.6	24.3	23.4	23.0	22.2	22.2	22.2	22.6	23.0
270.0	27.3	26.4	25.1	24.3	23.9	23.0	23.0	23.4	23.4	23.9
300.0	28.5	26.8	26.0	25.1	24.3	23.9	23.4	23.4	23.9	24.3
330.0	29.8	27.7	26.8	25.6	24.7	24.3	23.9	23.9	24.3	24.3
360.0	29.0	28.1	26.4	25.6	24.7	23.9	23.4	23.4	23.4	23.9

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### Intensity Data [cd]

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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	23.9	23.0	22.2	20.9	20.0	19.6	18.7	17.9	17.0	16.2
30.0	22.6	21.7	21.3	20.0	19.6	18.3	17.9	17.0	16.2	15.3
60.0	21.7	21.3	20.4	19.6	19.2	17.9	17.0	16.2	14.9	14.1
90.0	21.3	20.9	20.0	19.2	18.3	17.0	16.2	15.3	14.5	13.6
120.0	20.4	20.0	19.6	18.7	17.0	16.6	15.3	14.9	13.6	13.2
150.0	20.9	20.4	19.6	18.3	17.5	16.6	15.8	14.9	14.1	13.2
180.0	21.3	20.9	19.6	18.7	17.9	16.6	15.8	15.3	14.5	13.2
210.0	21.7	20.9	20.0	19.2	18.3	17.5	16.6	15.8	14.9	14.1
240.0	22.2	21.7	20.0	20.0	19.2	18.3	17.5	16.6	15.8	15.3
270.0	23.4	22.6	21.3	20.4	19.6	19.2	18.3	17.5	16.6	15.8
300.0	24.3	23.4	22.2	21.3	20.4	20.0	19.2	18.7	17.5	16.6
330.0	24.3	23.4	22.6	21.3	20.4	20.0	19.6	18.7	17.5	17.0
360.0	23.9	23.0	22.2	20.9	20.0	19.6	18.7	17.9	17.0	16.2

C\γ	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0
0.0	15.8	14.5	13.6	13.2	12.4	11.5	10.2	8.1	5.5	2.6
30.0	14.5	13.6	12.8	11.9	11.5	10.2	9.4	8.1	5.1	3.0
60.0	13.6	12.8	11.9	11.1	10.6	9.8	8.5	6.8	4.7	2.6
90.0	12.8	11.9	11.1	10.2	9.8	8.9	7.7	6.8	4.7	2.6
120.0	12.4	11.5	10.6	10.2	9.4	8.5	6.8	5.1	3.0	2.1
150.0	12.4	11.5	11.1	10.2	9.4	8.1	6.4	4.7	2.6	2.1
180.0	12.8	11.9	11.1	10.6	9.8	8.5	6.4	4.7	2.6	2.1
210.0	13.2	12.4	11.9	10.6	10.2	8.9	6.4	4.7	2.6	2.1
240.0	14.1	13.2	12.8	11.9	10.6	9.8	7.2	4.7	2.6	2.1
270.0	14.9	14.1	13.6	12.4	11.5	10.2	7.2	5.1	2.1	2.1
300.0	15.8	15.3	14.5	13.2	12.8	11.5	9.8	7.2	5.1	2.1
330.0	16.2	15.3	14.5	13.6	12.8	11.9	10.6	8.1	5.5	2.6
360.0	15.8	14.5	13.6	13.2	12.4	11.5	10.2	8.1	5.5	2.6

C\γ	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.1	1.7	1.7	1.3	0.9	0.9	0.9	0.4	0.4	0.0
30.0	2.1	1.7	1.7	1.3	1.3	0.9	0.9	0.4	0.0	0.4
60.0	2.1	1.7	1.7	1.3	1.3	0.9	0.9	0.4	0.4	0.0
90.0	2.1	1.7	1.3	1.3	0.9	0.9	0.9	0.4	0.4	0.0
120.0	1.7	1.7	1.3	0.9	0.9	0.4	0.4	0.4	0.4	0.0
150.0	1.7	1.7	1.3	1.3	0.9	0.4	0.4	0.4	0.4	0.4
180.0	1.7	1.3	1.3	1.3	0.9	0.4	0.4	0.4	0.4	0.0
210.0	1.7	1.3	1.3	0.9	0.9	0.4	0.4	0.4	0.0	0.4
240.0	1.7	1.3	0.9	0.9	0.9	0.4	0.4	0.4	0.4	0.0
270.0	1.7	1.3	1.3	0.9	0.9	0.9	0.4	0.4	0.0	0.0
300.0	1.7	1.7	1.3	1.3	0.9	0.9	0.4	0.4	0.4	0.0
330.0	2.1	1.7	1.7	1.3	0.9	0.9	0.4	0.4	0.4	0.4
360.0	2.1	1.7	1.7	1.3	0.9	0.9	0.9	0.4	0.4	0.0

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

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

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

**R854 WNL (CRI90 1050mA 20D)****Intensity Data [cd]****Page6**

C\γ	120.0	121.0	122.0	123.0	124.0	125.0	126.0	127.0	128.0	129.0
0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4
30.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.4	0.9
60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4
90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.9	0.9
120.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.9	0.9	1.3
150.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	0.9	1.3
180.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	0.9	1.3
210.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	0.9	1.3
240.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	1.3
270.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.9	0.9	0.9
300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9
330.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4
360.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4

C\γ	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0
0.0	0.9	1.3	1.3	1.3	1.7	2.1	2.6	3.0	3.4	3.8
30.0	0.9	0.9	1.3	1.7	1.7	2.1	2.6	2.6	3.4	3.8
60.0	0.9	0.9	1.3	1.3	1.7	1.7	2.1	2.6	3.4	4.3
90.0	0.9	0.9	1.3	1.3	1.7	2.1	2.6	3.0	3.4	4.3
120.0	1.3	1.7	2.1	2.1	2.6	3.4	4.3	4.7	6.0	6.8
150.0	1.3	1.7	2.1	2.6	3.0	3.4	4.3	5.1	6.0	7.2
180.0	1.3	1.7	2.1	2.6	3.0	3.4	4.3	5.1	6.0	7.7
210.0	1.3	1.7	2.1	2.6	3.0	3.4	4.3	5.1	6.0	7.7
240.0	1.3	1.7	2.1	2.6	3.0	3.8	4.3	5.5	6.4	8.1
270.0	1.3	1.7	2.1	2.6	3.0	3.4	4.7	5.5	6.4	7.7
300.0	0.9	0.9	1.3	1.3	1.7	2.1	2.6	3.0	3.4	4.7
330.0	0.9	0.9	1.3	1.3	1.7	2.1	2.6	3.0	3.4	4.3
360.0	0.9	1.3	1.3	1.3	1.7	2.1	2.6	3.0	3.4	3.8

C\γ	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	149.0
0.0	5.1	6.0	7.2	8.5	9.4	11.1	12.4	13.6	15.8	17.0
30.0	5.1	6.0	7.2	8.1	9.4	10.6	12.4	13.6	15.3	17.0
60.0	4.7	6.0	6.8	8.1	9.4	10.6	11.9	13.6	15.3	16.6
90.0	5.1	5.5	6.8	8.1	9.4	11.1	12.4	14.1	15.3	17.0
120.0	8.5	9.8	11.9	13.6	15.3	17.9	19.6	20.9	23.0	24.7
150.0	8.5	10.2	11.9	14.1	15.8	17.9	20.0	20.9	23.4	25.1
180.0	8.5	10.2	12.4	14.1	16.2	18.7	20.0	21.3	23.4	25.1
210.0	8.9	10.6	12.8	14.5	17.0	18.7	20.0	21.7	23.4	25.1
240.0	9.4	11.1	13.2	14.9	16.6	19.2	20.0	21.7	23.9	25.6
270.0	9.4	11.1	12.8	15.3	17.0	18.7	20.4	22.2	24.3	25.6
300.0	5.5	6.4	7.7	8.5	10.2	11.5	12.8	14.5	16.2	17.5
330.0	5.1	6.4	7.7	8.5	9.8	11.5	13.2	14.5	16.2	17.5
360.0	5.1	6.0	7.2	8.5	9.4	11.1	12.4	13.6	15.8	17.0

## R854 WNL (CRI90 1050mA 20D)

### 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	18.7	20.0	20.9	22.6	23.9	25.1	26.8	28.1	29.4	30.7
30.0	18.7	20.0	20.9	22.2	23.9	25.1	26.8	28.1	29.4	30.7
60.0	18.7	19.6	20.4	22.2	23.9	25.1	26.4	28.1	29.4	30.7
90.0	18.3	19.6	20.4	22.6	23.9	25.1	26.8	28.1	29.4	31.1
120.0	26.4	28.5	29.8	31.5	33.2	34.1	35.8	37.1	38.3	40.0
150.0	26.8	28.5	29.8	31.5	33.2	34.5	36.2	37.5	38.3	39.6
180.0	26.8	28.5	29.8	31.9	33.2	34.5	36.2	37.1	38.3	39.6
210.0	27.3	29.0	30.2	31.9	33.2	34.9	36.2	37.1	38.8	40.0
240.0	27.3	29.0	30.2	31.5	33.2	34.9	36.2	37.5	38.8	40.0
270.0	27.3	29.4	30.7	32.4	33.7	34.9	36.2	37.5	38.8	40.5
300.0	19.2	20.0	21.3	23.0	24.3	25.6	26.8	28.1	29.4	30.7
330.0	19.2	20.0	20.9	22.6	23.9	25.6	26.8	28.1	29.4	31.1
360.0	18.7	20.0	20.9	22.6	23.9	25.1	26.8	28.1	29.4	30.7

C\γ	160.0	161.0	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0
0.0	31.9	32.8	34.1	35.4	36.6	37.9	38.8	40.0	40.9	41.3
30.0	31.9	32.8	34.5	35.4	36.6	37.9	38.8	39.6	40.9	41.3
60.0	31.9	33.2	34.5	35.4	36.6	37.9	39.2	40.0	40.9	41.7
90.0	31.9	33.2	34.5	35.4	37.1	37.9	38.8	40.5	41.3	41.7
120.0	40.9	41.7	43.0	43.9	45.2	46.0	46.4	47.3	48.1	48.6
150.0	40.9	41.7	43.0	43.9	45.2	46.0	46.9	47.7	48.1	48.6
180.0	40.9	42.2	43.4	44.3	45.2	46.0	46.9	47.7	48.1	48.6
210.0	40.9	42.2	43.4	44.3	45.2	46.0	46.9	47.3	48.1	48.6
240.0	40.9	42.2	43.4	44.3	45.6	46.0	46.9	47.3	48.1	48.6
270.0	41.3	42.6	43.9	44.7	45.6	46.4	46.9	47.3	48.1	48.6
300.0	31.9	33.2	34.1	35.4	36.6	37.9	39.2	40.0	40.5	41.3
330.0	31.9	32.8	34.5	35.4	36.6	37.9	38.8	40.0	40.9	41.3
360.0	31.9	32.8	34.1	35.4	36.6	37.9	38.8	40.0	40.9	41.3

C\γ	170.0	171.0	172.0	173.0	174.0	175.0	176.0	177.0	178.0	179.0
0.0	42.2	42.2	42.6	42.2	42.2	42.2	42.2	42.2	42.6	43.4
30.0	42.2	42.6	42.6	43.0	42.6	42.6	42.6	42.6	43.0	43.9
60.0	42.6	42.6	43.0	43.0	43.0	43.0	43.0	43.0	43.4	44.3
90.0	42.6	43.0	43.0	43.4	43.4	43.4	43.4	43.4	43.9	44.3
120.0	48.6	48.6	47.7	47.3	46.9	46.0	45.2	44.7	43.9	43.9
150.0	48.6	48.6	47.7	47.3	46.4	45.6	44.7	43.9	43.9	43.9
180.0	48.6	48.1	47.7	47.3	46.0	45.2	44.7	43.9	43.9	43.9
210.0	48.6	48.1	47.3	46.9	46.0	45.2	44.3	43.9	43.9	44.3
240.0	48.1	48.1	47.3	46.4	45.6	45.2	44.3	43.9	43.9	44.7
270.0	48.6	48.1	47.7	46.9	46.4	45.6	44.7	44.3	44.3	45.2
300.0	41.7	42.2	42.2	42.2	42.2	41.3	41.3	41.7	42.6	43.0
330.0	41.7	42.2	42.6	42.2	42.2	41.7	41.7	41.7	42.6	43.4
360.0	42.2	42.2	42.6	42.2	42.2	42.2	42.2	42.2	42.6	43.4

Intensity Data [cd]		Page8
C\γ	180.0	
0.0	43.9	
30.0	44.3	
60.0	44.7	
90.0	45.2	
120.0	43.9	
150.0	43.9	
180.0	43.9	
210.0	44.3	
240.0	44.7	
270.0	45.2	
300.0	43.9	
330.0	43.9	
360.0	43.9	

**R854 WNL (CRI90 1050mA 20D)**

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	19526.06	0.00	0.00	0.00	0.00
1	19287.13	18.57	18.57	18.57	18.57
2	18629.37	54.42	72.99	54.42	72.99
3	17650.71	86.77	159.76	86.77	159.76
4	16346.53	113.80	273.56	113.80	273.56
5	15106.25	135.31	408.87	135.31	408.87
6	13720.08	151.49	560.36	151.49	560.36
7	12583.10	163.26	723.62	163.26	723.62
8	11375.13	171.46	895.09	171.46	895.09
9	10111.53	174.14	1069.23	174.14	1069.23
10	9088.57	173.75	1242.98	173.75	1242.98
11	8384.69	174.59	1417.57	174.59	1417.57
12	7485.75	173.49	1591.06	173.49	1591.06
13	6633.36	167.56	1758.62	167.56	1758.62
14	5826.86	159.49	1918.11	159.49	1918.11
15	5101.15	150.02	2068.13	150.02	2068.13
16	4382.90	138.97	2207.10	138.97	2207.10
17	3713.73	126.09	2333.19	126.09	2333.19
18	3141.73	113.03	2446.22	113.03	2446.22
19	2707.10	101.76	2547.98	101.76	2547.98
20	2398.98	93.46	2641.43	93.46	2641.43
21	2170.34	87.74	2729.17	87.74	2729.17
22	1978.94	83.38	2812.56	70.16	2799.33
23	1858.43	80.52	2893.07	14.15	2813.49
24	1766.07	79.24	2972.32	0.00	2813.49
25	1687.08	78.52	3050.84	0.00	2813.49
26	1623.58	78.15	3128.98	0.00	2813.49
27	1563.41	77.97	3206.95	0.00	2813.49
28	1509.88	77.81	3284.76	0.00	2813.49
29	1467.67	77.90	3362.66	0.00	2813.49
30	1414.57	77.82	3440.48	0.00	2813.49
31	1331.76	76.43	3516.91	0.00	2813.49
32	1188.35	72.20	3589.11	0.00	2813.49
33	970.11	63.59	3652.70	0.00	2813.49
34	741.72	51.80	3704.50	0.00	2813.49
35	526.82	39.40	3743.90	0.00	2813.49
36	334.56	27.43	3771.33	0.00	2813.49
37	199.39	17.41	3788.74	0.00	2813.49
38	139.22	11.30	3800.04	0.00	2813.49
39	116.50	8.73	3808.77	0.00	2813.49
40	103.12	7.66	3816.43	0.00	2813.49

**R854 WNL (CRI90 1050mA 20D)**

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	91.97	6.95	3823.38	0.00	2813.49
42	77.85	6.17	3829.55	0.00	2813.49
43	62.48	5.20	3834.74	0.00	2813.49
44	53.32	4.37	3839.11	0.00	2813.49
45	45.90	3.81	3842.93	0.00	2813.49
46	39.30	3.33	3846.26	0.00	2813.49
47	35.11	2.96	3849.22	0.00	2813.49
48	31.98	2.71	3851.93	0.00	2813.49
49	29.68	2.53	3854.46	0.00	2813.49
50	27.94	2.40	3856.87	0.00	2813.49
51	26.48	2.30	3859.17	0.00	2813.49
52	25.17	2.22	3861.38	0.00	2813.49
53	24.14	2.14	3863.53	0.00	2813.49
54	23.36	2.09	3865.62	0.00	2813.49
55	22.68	2.06	3867.68	0.00	2813.49
56	22.33	2.03	3869.71	0.00	2813.49
57	22.22	2.04	3871.75	0.00	2813.49
58	22.43	2.07	3873.81	0.00	2813.49
59	22.65	2.11	3875.92	0.00	2813.49
60	22.33	2.12	3878.05	0.00	2813.49
61	21.69	2.10	3880.15	0.00	2813.49
62	20.73	2.04	3882.19	0.00	2813.49
63	19.81	1.97	3884.16	0.00	2813.49
64	18.96	1.90	3886.06	0.00	2813.49
65	18.14	1.84	3887.90	0.00	2813.49
66	17.32	1.77	3889.67	0.00	2813.49
67	16.58	1.70	3891.37	0.00	2813.49
68	15.58	1.63	3893.00	0.00	2813.49
69	14.80	1.55	3894.55	0.00	2813.49
70	14.02	1.48	3896.03	0.00	2813.49
71	13.17	1.41	3897.44	0.00	2813.49
72	12.46	1.33	3898.77	0.00	2813.49
73	11.61	1.26	3900.03	0.00	2813.49
74	10.90	1.18	3901.21	0.00	2813.49
75	9.83	1.10	3902.31	0.00	2813.49
76	8.06	0.95	3903.26	0.00	2813.49
77	6.18	0.76	3904.02	0.00	2813.49
78	3.83	0.54	3904.55	0.00	2813.49
79	2.34	0.33	3904.88	0.00	2813.49
80	1.88	0.23	3905.11	0.00	2813.49
81	1.56	0.19	3905.30	0.00	2813.49

**R854 WNL (CRI90 1050mA 20D)**

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	1.38	0.16	3905.46	0.00	2813.49
83	1.14	0.14	3905.59	0.00	2813.49
84	0.92	0.11	3905.71	0.00	2813.49
85	0.67	0.09	3905.79	0.00	2813.49
86	0.57	0.07	3905.86	0.00	2813.49
87	0.43	0.05	3905.92	0.00	2813.49
88	0.32	0.04	3905.96	0.00	2813.49
89	0.14	0.03	3905.98	0.00	2813.49
90	0.00	0.01	3905.99	0.00	2813.49
91	0.00	0.00	3905.99	0.00	2813.49
92	0.00	0.00	3905.99	0.00	2813.49
93	0.00	0.00	3905.99	0.00	2813.49
94	0.00	0.00	3905.99	0.00	2813.49
95	0.00	0.00	3905.99	0.00	2813.49
96	0.00	0.00	3905.99	0.00	2813.49
97	0.00	0.00	3905.99	0.00	2813.49
98	0.00	0.00	3905.99	0.00	2813.49
99	0.00	0.00	3905.99	0.00	2813.49
100	0.00	0.00	3905.99	0.00	2813.49
101	0.00	0.00	3905.99	0.00	2813.49
102	0.00	0.00	3905.99	0.00	2813.49
103	0.00	0.00	3905.99	0.00	2813.49
104	0.00	0.00	3905.99	0.00	2813.49
105	0.00	0.00	3905.99	0.00	2813.49
106	0.00	0.00	3905.99	0.00	2813.49
107	0.00	0.00	3905.99	0.00	2813.49
108	0.00	0.00	3905.99	0.00	2813.49
109	0.00	0.00	3905.99	0.00	2813.49
110	0.00	0.00	3905.99	0.00	2813.49
111	0.00	0.00	3905.99	0.00	2813.49
112	0.00	0.00	3905.99	0.00	2813.49
113	0.00	0.00	3905.99	0.00	2813.49
114	0.00	0.00	3905.99	0.00	2813.49
115	0.00	0.00	3905.99	0.00	2813.49
116	0.00	0.00	3905.99	0.00	2813.49
117	0.00	0.00	3905.99	0.00	2813.49
118	0.00	0.00	3905.99	0.00	2813.49
119	0.00	0.00	3905.99	0.00	2813.49
120	0.00	0.00	3905.99	0.00	2813.49
121	0.00	0.00	3905.99	0.00	2813.49
122	0.00	0.00	3905.99	0.00	2813.49

**R854 WNL (CRI90 1050mA 20D)**

Zonal flux distribution table

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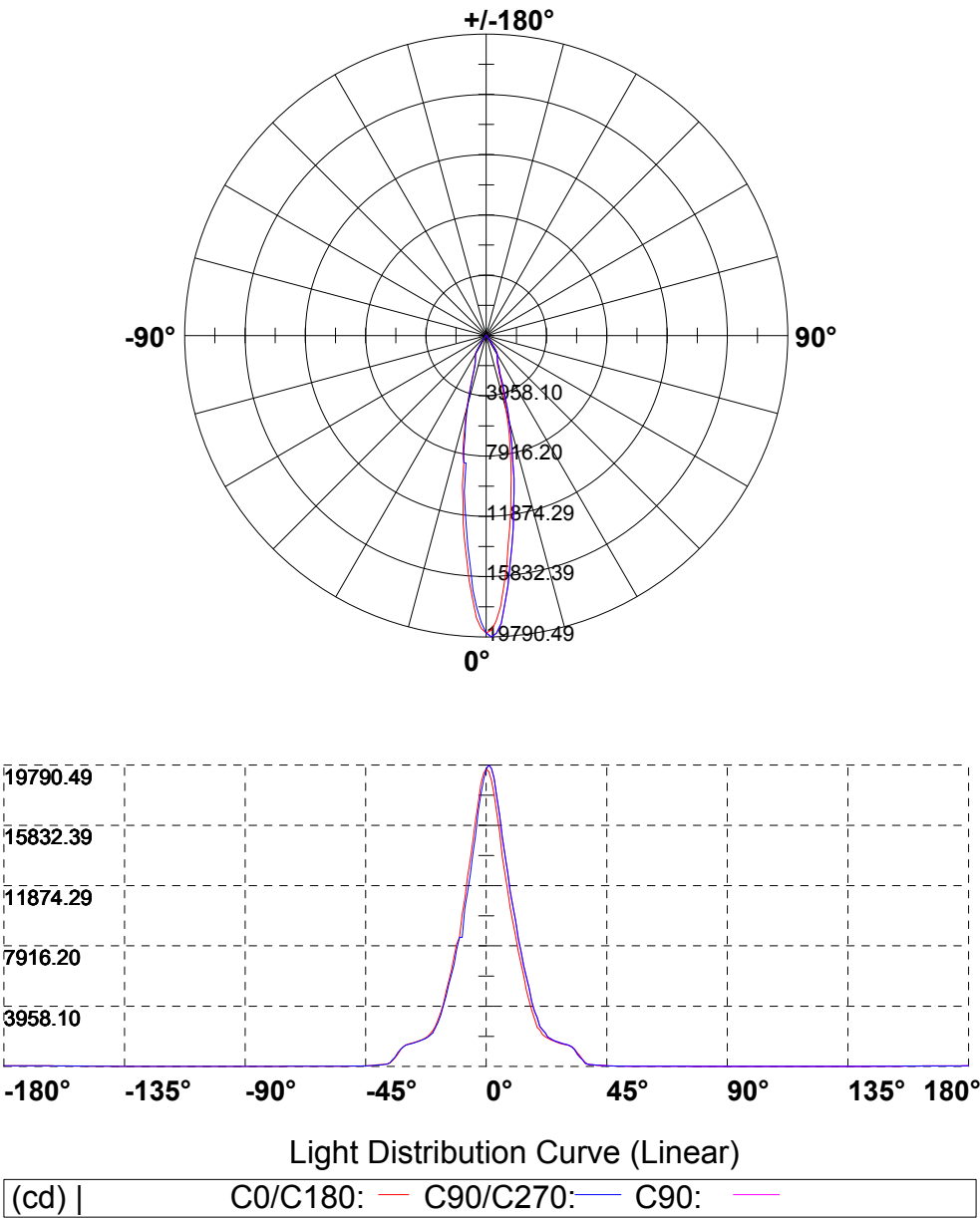
Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
123	0.11	0.00	3906.00	0.00	2813.49
124	0.18	0.01	3906.01	0.00	2813.49
125	0.32	0.02	3906.03	0.00	2813.49
126	0.50	0.04	3906.07	0.00	2813.49
127	0.64	0.05	3906.12	0.00	2813.49
128	0.67	0.06	3906.17	0.00	2813.49
129	0.92	0.07	3906.24	0.00	2813.49
130	1.06	0.08	3906.33	0.00	2813.49
131	1.31	0.10	3906.43	0.00	2813.49
132	1.70	0.12	3906.55	0.00	2813.49
133	1.92	0.15	3906.70	0.00	2813.49
134	2.31	0.17	3906.86	0.00	2813.49
135	2.77	0.20	3907.06	0.00	2813.49
136	3.41	0.24	3907.30	0.00	2813.49
137	4.01	0.28	3907.58	0.00	2813.49
138	4.76	0.32	3907.90	0.00	2813.49
139	5.86	0.39	3908.29	0.00	2813.49
140	6.99	0.46	3908.75	0.00	2813.49
141	8.27	0.53	3909.28	0.00	2813.49
142	9.87	0.62	3909.90	0.00	2813.49
143	11.36	0.71	3910.61	0.00	2813.49
144	12.96	0.79	3911.40	0.00	2813.49
145	14.80	0.88	3912.28	0.00	2813.49
146	16.26	0.96	3913.25	0.00	2813.49
147	17.71	1.03	3914.28	0.00	2813.49
148	19.63	1.10	3915.38	0.00	2813.49
149	21.16	1.17	3916.54	0.00	2813.49
150	22.90	1.23	3917.77	0.00	2813.49
151	24.35	1.28	3919.05	0.00	2813.49
152	25.45	1.30	3920.35	0.00	2813.49
153	27.16	1.33	3921.68	0.00	2813.49
154	28.61	1.36	3923.04	0.00	2813.49
155	29.96	1.38	3924.43	0.00	2813.49
156	31.45	1.40	3925.82	0.00	2813.49
157	32.69	1.40	3927.23	0.00	2813.49
158	33.97	1.40	3928.63	0.00	2813.49
159	35.39	1.39	3930.02	0.00	2813.49
160	36.46	1.38	3931.40	0.00	2813.49
161	37.56	1.35	3932.75	0.00	2813.49
162	38.87	1.33	3934.08	0.00	2813.49
163	39.79	1.30	3935.38	0.00	2813.49

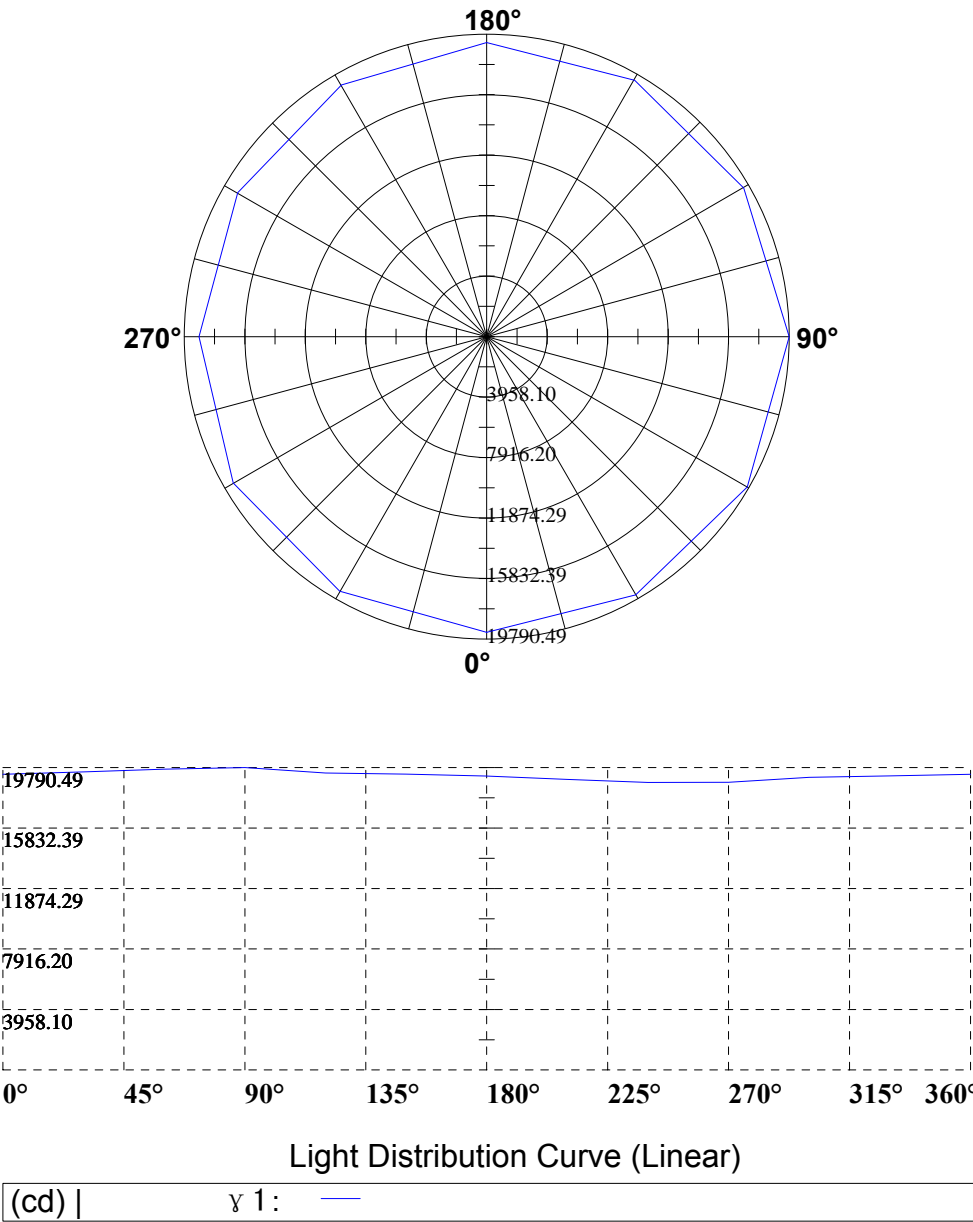
## R854 WNL (CRI90 1050mA 20D)

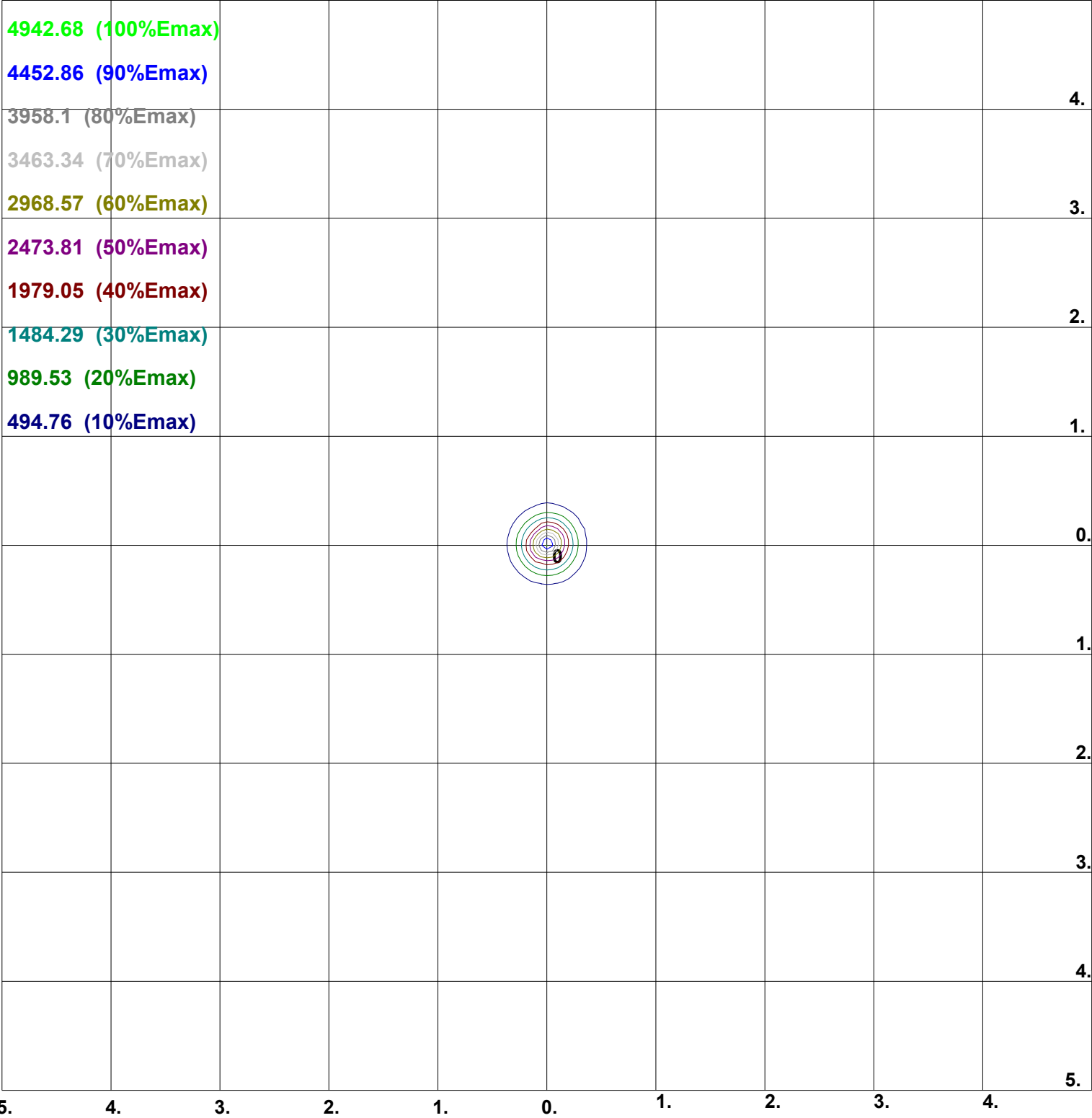
### Zonal flux distribution table

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[illegible]







Coordinate Scale: d/h  
Height: 2 m  
Max Illuminance : 4947.62lx

## Luminance Limiting Curve (There is not luminous side)

Diameter: 140mm

Length: -140mm

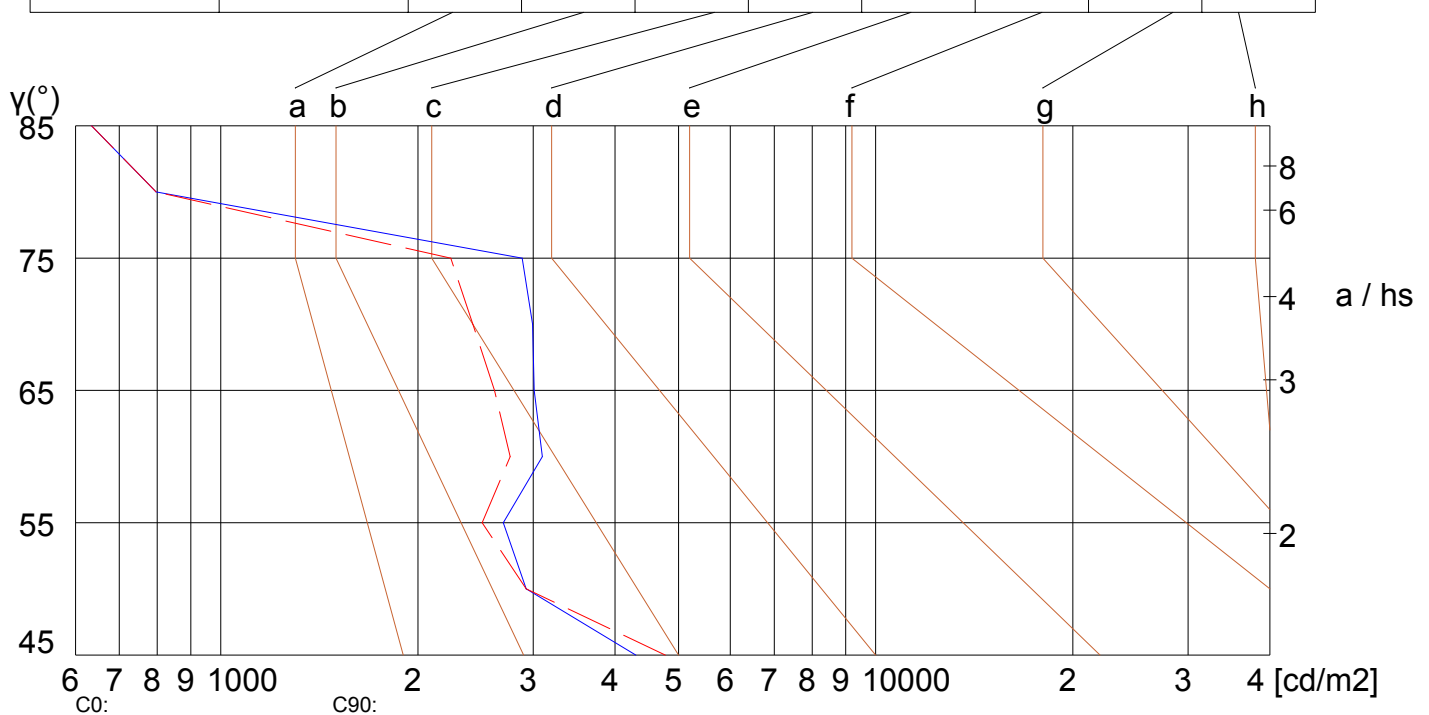
Width: -140mm

Height: 100mm

(cd/m<sup>2</sup>)

$\gamma$	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	4772	2926	2508	2766	2618	2426	2244	796	635
C90	4303	2926	2701	3098	3011	2992	2886	796	635

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 20D)**

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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	1.03	1.02	1.02	1.01	1.01	1.00	0.97	0.96	0.96	0.92	0.91	0.91	0.86	0.85	0.84	0.79
2	0.99	0.98	0.97	0.97	0.96	0.95	0.93	0.92	0.91	0.89	0.87	0.86	0.83	0.82	0.80	0.76
3	0.95	0.94	0.93	0.93	0.92	0.91	0.90	0.88	0.87	0.86	0.84	0.82	0.81	0.79	0.77	0.73
4	0.91	0.90	0.89	0.89	0.88	0.87	0.86	0.84	0.83	0.83	0.80	0.79	0.78	0.76	0.74	0.70
5	0.87	0.86	0.86	0.86	0.85	0.84	0.83	0.81	0.80	0.80	0.77	0.75	0.76	0.73	0.71	0.67
6	0.84	0.83	0.83	0.83	0.81	0.81	0.80	0.78	0.77	0.77	0.74	0.73	0.73	0.71	0.68	0.65
7	0.81	0.80	0.80	0.80	0.79	0.78	0.77	0.75	0.74	0.74	0.72	0.70	0.71	0.68	0.66	0.63
8	0.78	0.77	0.77	0.77	0.76	0.75	0.75	0.73	0.71	0.72	0.69	0.68	0.69	0.66	0.64	0.61
9	0.76	0.75	0.74	0.75	0.73	0.73	0.72	0.70	0.69	0.70	0.67	0.65	0.67	0.64	0.62	0.59
10	0.74	0.73	0.72	0.73	0.71	0.70	0.70	0.68	0.67	0.68	0.65	0.63	0.65	0.62	0.60	0.57

