

R854 WNL (CRI90 1400mA 20D)

Luminaire Name: R854 WNL (CRI90 1400mA 20D)

Report NO.: 01313217031108A

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: 230.34 V

Current: 0.2438 A

Power: 54.421 W

Power Factor: 0.9689

Ballast Type: HEP LTC60W1400-1CZ UNI

Width: -140mm

Height: 100mm

Optical Component: 20D Reflector DC(V:37.37V I:1.369A P:51.16W)

Photometric Results

Lumens: 4951.99 lm

Efficiency: 87.9%

Central Intensity: 24914.89cd

Maximum Intensity: 24914.891cd

Beam Angle(10%): Left: -22.6 Right:21.8

Maximum s/h: C0_180: 0.18 C90_270: 0.18

Effective Luminous Flux: 3525.21 lm

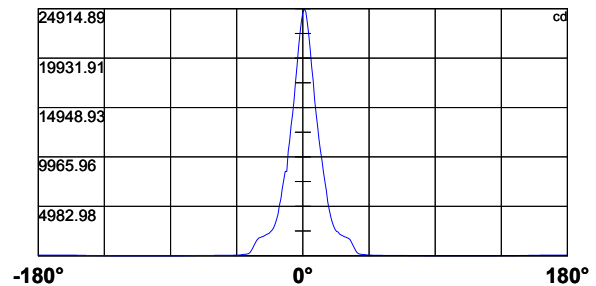
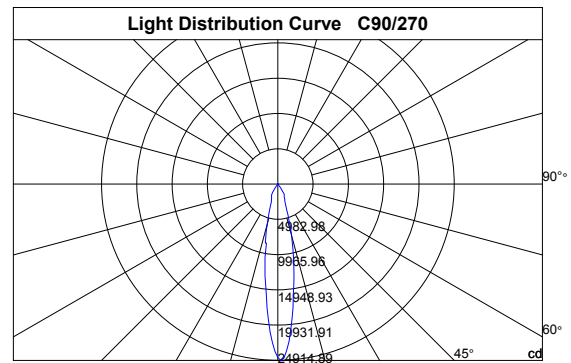
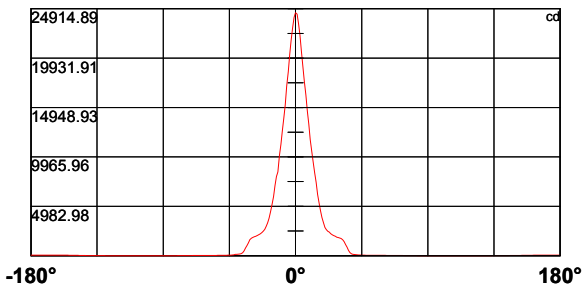
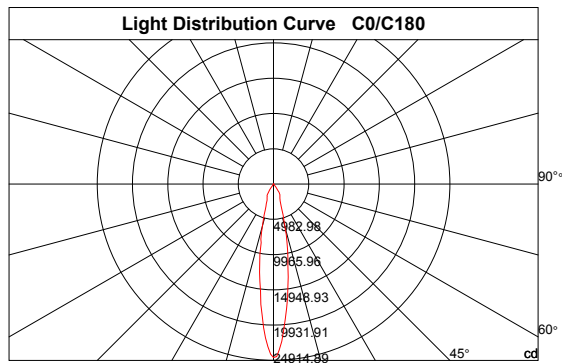
Angle of maximum intensity: C:90.0 G:1.0

Half Peak Side Angle(50%): Left: -9.4 Right:9.5

Up Flux Rate: 0.92%

Down Flux Rate: 86.97%

CIE Classification: Direct



R854 WNL (CRI90 1400mA 20D)**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	24505.3	24378.2	23415.5	22239.8	20612.6	19100.4	17626.6	16191.1	14576.6	13294.5
30.0	24505.3	24544.3	24024.6	22883.0	21579.6	19654.2	18231.4	16855.6	15309.3	14082.5
60.0	24505.3	24736.0	24314.3	23228.1	21975.7	20540.2	18887.4	17486.0	16131.4	14423.3
90.0	24505.3	24914.9	24578.4	23556.1	22299.4	20851.2	19104.7	17618.1	15692.7	14350.9
120.0	24505.3	24335.6	23628.5	22308.0	20910.8	19138.8	17656.4	15948.3	14538.3	13205.0
150.0	24505.3	24169.4	23343.1	22150.3	20467.8	18955.6	17469.0	15518.0	14095.3	12561.8
180.0	24505.3	24041.7	22989.5	21758.5	20310.2	18568.0	17106.9	15215.6	13873.8	12612.9
210.0	24505.3	23832.9	22819.1	21537.0	19628.6	18176.1	16493.5	15117.6	13835.5	12229.5
240.0	24505.3	23662.5	22495.4	20872.4	19411.4	17924.8	16012.2	14649.0	13188.0	11986.8
270.0	24505.3	23611.4	22363.3	20923.6	19151.5	17613.8	15645.8	14235.9	13149.6	11599.1
300.0	24505.3	23879.8	22848.9	21272.9	19722.3	18171.8	16399.8	14891.8	13516.0	11884.5
330.0	24505.3	24173.7	22985.3	21694.6	20190.9	18367.8	16847.1	15360.4	13516.0	12489.4
360.0	24505.3	24378.2	23415.5	22239.8	20612.6	19100.4	17626.6	16191.1	14576.6	13294.5

C\γ	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
0.0	11718.4	10593.8	9511.9	8340.5	7407.6	6202.1	5350.2	4557.9	3863.5	3318.3
30.0	12902.6	11509.7	10334.0	9226.5	7859.1	6892.2	5823.0	4966.8	4200.0	3395.0
60.0	13273.2	12110.3	10747.2	9648.2	8451.2	7480.0	6538.6	5337.4	4536.6	3855.0
90.0	13111.3	11735.4	10632.2	9584.3	8429.9	7492.8	6572.7	5409.8	4638.8	3893.4
120.0	11582.1	10666.3	9154.1	8378.8	7461.3	6441.5	5611.7	4851.4	4010.5	3575.6
150.0	11373.3	10291.4	8520.2	8215.2	7325.8	6197.4	5410.2	4573.6	3948.7	3438.8
180.0	11232.8	10133.8	8460.2	7983.5	7079.6	5965.3	5199.4	4502.9	3795.8	3325.1
210.0	11271.1	10146.6	8436.3	7798.6	6885.8	5894.1	5115.0	4198.8	3728.9	3272.7
240.0	10853.7	8522.3	8522.3	7748.4	6580.4	5743.8	5104.0	4183.9	3620.7	3180.3
270.0	10538.5	8498.1	8498.1	7637.6	6801.9	5729.3	5089.9	4164.3	3586.2	3139.8
300.0	10785.5	9635.4	8706.8	7837.8	6887.9	6095.6	5333.1	4357.7	3723.0	3216.1
330.0	10781.3	10078.4	8928.3	8016.7	6883.6	6057.3	5256.4	4374.7	3714.4	3211.8
360.0	11718.4	10593.8	9511.9	8340.5	7407.6	6202.1	5350.2	4557.9	3863.5	3318.3

C\γ	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
0.0	2841.2	2619.7	2462.1	2381.2	2216.7	2108.1	2023.3	1957.3	1871.3	1824.0
30.0	2981.8	2713.4	2530.3	2389.7	2389.7	2132.8	2048.5	1980.3	1897.7	1846.1
60.0	3233.1	2866.8	2594.1	2436.5	2389.7	2170.3	2086.4	2011.4	1944.1	1873.8
90.0	3369.4	2956.2	2632.5	2445.1	2398.2	2179.7	2096.2	2009.3	1930.5	1876.8
120.0	3153.0	2729.2	2517.5	2367.1	2242.3	2152.8	2062.1	1955.6	1896.8	1827.8
150.0	2984.8	2693.8	2486.0	2300.2	2199.3	2117.1	2023.8	1953.1	1890.4	1837.6
180.0	2963.9	2656.8	2472.7	2339.4	2202.3	2123.9	2044.2	1965.8	1908.3	1847.4
210.0	2826.7	2600.5	2433.1	2295.5	2201.0	2117.9	2010.6	1947.5	1880.7	1826.6
240.0	2804.1	2587.8	2387.1	2277.7	2186.9	2090.7	2010.1	1945.0	1883.6	1827.8
270.0	2777.3	2575.4	2423.8	2273.4	2181.8	2115.4	2021.6	1950.9	1887.5	1831.7
300.0	2802.9	2560.1	2398.2	2398.2	2164.8	2059.1	1994.8	1933.9	1865.7	1820.2
330.0	2768.8	2589.9	2432.3	2393.9	2176.7	2078.3	2003.3	1943.7	1862.8	1824.4
360.0	2841.2	2619.7	2462.1	2381.2	2216.7	2108.1	2023.3	1957.3	1871.3	1824.0

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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	1779.7	1724.3	1613.6	1412.1	1122.9	865.1	530.3	315.6	180.2	138.4
30.0	1798.0	1743.1	1635.3	1438.9	1108.8	850.7	599.3	348.9	205.3	154.6
60.0	1822.3	1772.9	1634.0	1414.6	1115.6	852.4	600.6	316.5	200.2	167.4
90.0	1813.3	1754.6	1625.1	1365.2	1053.0	782.1	489.9	291.8	187.9	152.1
120.0	1765.2	1637.0	1392.5	1128.0	840.4	495.8	303.3	187.4	160.2	135.5
150.0	1775.0	1584.6	1347.3	1074.7	752.3	501.4	309.3	191.3	172.1	147.8
180.0	1775.0	1624.6	1306.0	1037.2	773.1	491.6	303.7	200.2	173.4	154.2
210.0	1749.9	1561.6	1326.9	1059.4	710.5	478.4	296.5	191.7	167.0	146.1
240.0	1765.2	1561.2	1328.2	1021.5	758.2	515.0	285.4	181.9	152.5	124.4
270.0	1778.0	1604.2	1382.3	1118.6	800.4	549.5	311.8	200.6	168.7	141.4
300.0	1773.3	1719.6	1596.5	1384.8	1031.3	748.9	466.9	282.0	181.5	149.1
330.0	1779.7	1714.5	1593.5	1387.8	1086.2	816.2	479.2	286.3	188.7	146.5
360.0	1779.7	1724.3	1613.6	1412.1	1122.9	865.1	530.3	315.6	180.2	138.4

C\γ	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0
0.0	120.5	107.8	90.3	80.9	71.6	58.4	51.5	46.4	41.7	39.2
30.0	133.8	121.0	108.2	82.2	73.3	60.9	52.8	47.7	40.9	38.3
60.0	140.1	130.3	119.7	82.6	76.2	66.5	53.7	47.7	43.0	38.8
90.0	131.2	118.4	108.6	84.3	77.1	64.7	54.9	46.9	42.2	39.2
120.0	116.3	101.4	90.3	78.8	66.9	56.7	48.6	43.4	40.0	37.1
150.0	130.3	119.7	87.3	77.1	66.9	54.1	47.7	43.4	39.6	37.1
180.0	142.7	124.4	86.9	75.0	64.7	54.9	46.9	41.7	39.2	36.6
210.0	132.9	123.5	83.5	72.8	60.9	52.4	46.0	40.9	37.9	35.4
240.0	109.9	97.1	85.2	75.0	58.4	53.2	46.9	40.5	37.9	35.8
270.0	126.5	114.2	86.0	75.8	63.0	53.7	48.1	43.4	39.2	37.5
300.0	132.5	124.0	108.6	76.7	68.2	56.2	50.3	44.7	40.0	38.3
330.0	131.6	120.1	108.2	78.4	69.0	56.7	50.3	45.6	41.3	39.6
360.0	120.5	107.8	90.3	80.9	71.6	58.4	51.5	46.4	41.7	39.2

C\γ	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0
0.0	36.6	34.9	33.7	31.9	31.1	30.2	29.4	29.4	29.8	30.2
30.0	35.8	33.7	32.4	31.1	29.8	29.0	28.1	27.7	28.1	28.5
60.0	37.1	34.1	32.4	31.1	29.4	28.1	27.7	26.8	26.8	27.3
90.0	36.2	34.1	31.9	30.7	29.4	27.7	27.3	26.4	26.8	26.8
120.0	34.5	31.9	30.7	29.4	28.5	27.7	26.8	26.8	26.8	26.8
150.0	34.9	32.8	31.5	29.4	28.5	28.1	27.3	27.3	27.3	27.7
180.0	34.5	32.4	30.7	29.4	28.5	27.7	27.3	27.7	27.7	28.1
210.0	33.2	31.5	30.2	29.0	28.5	27.7	27.3	27.7	27.7	28.5
240.0	33.2	31.9	30.7	29.8	29.0	28.1	28.1	28.1	28.5	29.0
270.0	34.9	33.7	32.4	30.7	30.2	29.4	29.4	29.4	29.8	30.2
300.0	35.8	34.1	32.8	31.5	30.7	29.8	29.4	29.4	30.2	30.7
330.0	37.5	34.9	33.7	31.9	31.1	30.2	30.2	29.8	30.7	30.7
360.0	36.6	34.9	33.7	31.9	31.1	30.2	29.4	29.4	29.8	30.2

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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	30.2	29.4	28.5	26.4	25.1	23.9	23.0	21.7	20.9	20.0
30.0	28.5	27.7	26.8	25.1	23.4	22.2	21.3	20.0	20.0	19.2
60.0	27.7	26.8	25.6	24.3	23.0	21.3	20.4	20.0	18.7	17.9
90.0	26.8	26.4	25.6	23.4	22.2	20.9	20.0	19.2	18.3	17.0
120.0	26.0	25.6	23.4	22.6	20.9	20.0	19.2	18.7	17.5	16.6
150.0	26.8	25.6	23.9	22.6	20.9	20.0	19.6	18.7	17.5	17.0
180.0	26.8	26.0	24.3	23.0	21.3	20.0	19.6	19.2	17.9	17.0
210.0	27.7	26.8	24.7	23.9	22.2	20.9	20.0	19.6	18.7	17.9
240.0	28.1	27.3	25.6	23.9	23.4	22.6	21.3	20.0	19.6	18.7
270.0	29.8	29.0	26.8	25.6	24.3	23.4	22.6	21.7	20.0	19.6
300.0	30.2	29.4	29.0	26.8	25.6	24.7	23.4	22.2	21.3	20.0
330.0	30.7	29.4	28.5	27.3	26.0	24.7	23.9	22.6	21.7	20.4
360.0	30.2	29.4	28.5	26.4	25.1	23.9	23.0	21.7	20.9	20.0

C\γ	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0
0.0	19.6	18.7	17.5	16.6	15.3	14.5	13.2	10.6	6.4	3.4
30.0	18.3	17.0	16.2	15.3	14.5	13.2	11.9	10.2	6.4	3.4
60.0	17.0	16.2	14.9	14.1	13.2	12.4	10.6	8.5	6.4	3.4
90.0	16.2	15.3	14.1	12.8	12.4	11.5	10.2	8.5	6.0	3.4
120.0	15.3	14.5	13.6	12.8	11.9	10.6	8.9	6.4	3.4	3.0
150.0	15.3	14.5	13.6	12.8	11.9	10.6	8.9	6.0	3.0	2.6
180.0	15.8	14.9	14.1	13.2	12.4	10.6	8.1	6.0	3.0	2.6
210.0	17.0	15.3	14.5	13.6	12.4	11.1	8.1	6.0	3.0	2.6
240.0	17.9	16.6	15.8	14.9	13.6	11.9	8.5	6.0	3.0	2.6
270.0	19.2	17.9	17.0	15.8	14.5	13.2	8.9	6.0	3.0	2.6
300.0	19.6	19.2	17.9	17.0	15.8	14.5	12.8	9.8	6.0	3.0
330.0	20.0	19.2	17.9	17.5	16.2	15.3	13.6	11.1	6.4	3.0
360.0	19.6	18.7	17.5	16.6	15.3	14.5	13.2	10.6	6.4	3.4

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

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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	0.0	0.4	0.4	0.0	0.0	0.4	0.4	0.4	0.9	0.9
30.0	0.0	0.4	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.9
60.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	0.9
90.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.9	1.3
120.0	0.4	0.0	0.4	0.4	0.4	0.9	0.9	0.9	1.3	1.3
150.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	0.9	1.3	1.7
180.0	0.0	0.4	0.4	0.4	0.4	0.4	0.9	1.3	1.3	1.7
210.0	0.0	0.4	0.0	0.4	0.4	0.4	0.9	1.3	1.3	1.3
240.0	0.0	0.0	0.0	0.0	0.4	0.4	0.9	1.3	1.3	1.7
270.0	0.0	0.0	0.0	0.4	0.4	0.4	0.9	0.9	1.3	1.7
300.0	0.4	0.0	0.4	0.0	0.0	0.4	0.4	0.4	0.9	0.9
330.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.9
360.0	0.0	0.4	0.4	0.0	0.0	0.4	0.4	0.4	0.9	0.9

C\γ	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0
0.0	1.3	1.3	1.7	1.7	2.1	2.6	3.0	3.4	4.7	5.1
30.0	0.9	1.3	1.7	2.1	2.1	2.6	3.0	3.4	4.3	5.1
60.0	0.9	1.3	1.3	1.7	2.1	2.6	3.0	3.4	4.3	5.1
90.0	0.9	1.3	1.7	2.1	2.1	2.6	3.0	3.4	4.3	5.1
120.0	1.7	2.1	2.6	3.0	3.4	4.3	5.1	6.0	7.2	8.9
150.0	1.7	2.1	2.6	3.0	3.4	4.3	5.1	6.4	7.7	8.9
180.0	2.1	2.1	2.6	3.4	3.8	4.3	5.5	6.4	7.7	9.4
210.0	1.7	2.1	2.6	3.0	3.8	4.7	5.5	6.4	8.1	9.8
240.0	2.1	2.1	2.6	3.4	3.8	4.7	6.0	6.8	8.5	9.8
270.0	1.7	2.1	3.0	3.4	3.8	4.7	5.5	6.8	8.5	10.2
300.0	1.3	1.3	1.7	1.7	2.1	2.6	3.4	3.8	4.7	5.5
330.0	1.3	1.3	1.7	1.7	2.1	2.6	3.0	3.8	4.7	5.1
360.0	1.3	1.3	1.7	1.7	2.1	2.6	3.0	3.4	4.7	5.1

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	7.7	8.9	10.6	11.9	13.6	15.8	17.5	19.2	20.9
30.0	6.4	7.2	8.5	10.2	11.9	13.2	15.8	17.5	19.2	20.4
60.0	6.0	7.7	8.9	10.2	11.9	13.6	15.3	17.5	19.2	20.0
90.0	6.0	7.2	8.5	10.2	11.9	13.6	15.3	17.5	19.2	20.4
120.0	10.2	11.9	14.9	17.0	19.6	21.3	23.9	26.4	28.5	31.1
150.0	10.6	12.8	14.9	17.0	20.0	22.2	24.3	26.8	29.0	31.9
180.0	11.1	13.2	15.3	17.9	20.0	21.7	24.3	27.3	29.4	31.9
210.0	11.5	13.6	16.2	18.3	20.0	22.6	24.7	27.7	29.8	32.4
240.0	12.4	14.1	15.8	19.2	20.4	23.0	25.6	27.7	29.8	32.8
270.0	11.9	14.1	16.6	18.7	20.4	23.4	26.0	27.7	30.7	32.8
300.0	6.8	7.7	9.8	11.1	12.4	14.9	16.6	18.3	20.0	21.3
330.0	6.8	7.7	8.9	10.6	12.4	14.1	16.2	17.9	19.6	21.3
360.0	6.4	7.7	8.9	10.6	11.9	13.6	15.8	17.5	19.2	20.9

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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	22.6	24.7	26.4	28.1	30.2	31.9	33.7	35.8	37.5	38.8
30.0	22.6	24.3	26.4	28.1	30.2	31.9	33.7	35.8	37.1	38.8
60.0	22.6	23.9	26.4	28.1	29.8	31.9	33.7	35.4	37.5	39.2
90.0	22.6	24.3	26.4	28.1	30.2	31.9	33.7	35.4	37.5	39.2
120.0	33.7	35.8	37.5	39.6	41.3	43.9	45.2	46.4	48.1	49.4
150.0	33.7	35.8	38.3	40.0	41.7	43.9	45.2	46.4	48.1	49.4
180.0	34.1	35.8	38.3	40.0	41.7	43.9	45.6	46.9	48.6	49.8
210.0	34.5	36.2	38.3	40.0	41.7	43.9	45.6	46.9	48.6	49.8
240.0	34.1	36.6	38.8	40.5	42.6	44.3	45.6	47.3	49.0	50.3
270.0	34.9	37.1	39.2	40.9	42.6	44.3	46.4	47.7	49.0	50.7
300.0	23.4	25.1	26.4	28.5	30.7	32.4	34.1	35.4	37.1	38.8
330.0	23.0	25.1	26.8	28.5	30.7	32.4	33.7	35.8	37.5	38.8
360.0	22.6	24.7	26.4	28.1	30.2	31.9	33.7	35.8	37.5	38.8

C\γ	160.0	161.0	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0
0.0	40.5	41.7	43.0	45.2	46.0	47.3	49.0	50.3	51.1	52.0
30.0	40.5	41.7	43.4	45.2	46.4	47.7	49.0	50.3	51.5	52.4
60.0	40.5	42.2	43.4	45.2	46.4	47.7	49.4	50.3	51.5	52.8
90.0	40.9	42.2	43.4	45.2	46.4	47.7	49.4	50.7	52.0	52.8
120.0	51.1	52.4	53.7	54.9	56.7	57.5	58.8	59.6	60.5	60.9
150.0	50.7	52.8	53.7	55.4	56.7	57.5	58.8	59.6	60.1	60.9
180.0	51.5	52.8	54.1	55.4	56.7	57.5	58.8	59.6	60.5	60.9
210.0	51.5	52.8	54.5	55.4	56.7	57.9	58.8	60.1	60.5	60.9
240.0	51.5	53.2	54.5	55.4	57.1	57.9	59.2	60.1	60.5	60.9
270.0	52.0	53.7	54.9	56.2	57.5	58.8	59.6	60.5	60.9	61.3
300.0	40.5	41.7	43.4	44.7	46.0	47.3	49.0	49.8	51.1	52.0
330.0	40.5	41.7	43.0	44.7	46.0	47.3	49.0	49.8	51.1	52.0
360.0	40.5	41.7	43.0	45.2	46.0	47.3	49.0	50.3	51.1	52.0

C\γ	170.0	171.0	172.0	173.0	174.0	175.0	176.0	177.0	178.0	179.0
0.0	52.8	53.2	53.7	53.2	53.2	53.2	52.8	52.8	53.7	54.1
30.0	52.8	53.7	53.7	53.7	53.7	53.7	53.7	53.7	54.1	54.9
60.0	53.2	53.7	54.1	54.1	54.1	54.1	54.1	54.1	54.5	55.4
90.0	53.7	54.1	54.5	54.5	54.5	54.5	54.5	54.5	55.4	56.2
120.0	60.9	60.9	60.1	59.2	58.4	57.5	56.2	55.8	54.9	54.9
150.0	60.9	60.9	60.1	59.6	58.4	57.5	56.2	55.4	54.9	54.9
180.0	60.9	60.9	59.6	58.8	57.9	56.7	55.8	54.9	54.9	54.9
210.0	60.9	60.5	59.6	58.8	57.9	57.1	55.8	54.9	54.9	55.4
240.0	60.9	60.9	59.6	58.8	57.5	56.7	55.8	55.4	55.4	56.2
270.0	61.3	60.9	60.5	59.2	58.4	57.5	56.7	56.2	56.2	57.1
300.0	52.8	53.2	53.2	52.8	52.4	52.4	52.0	52.4	52.8	54.1
330.0	52.8	53.2	53.2	53.2	52.8	52.8	52.4	52.4	53.2	54.1
360.0	52.8	53.2	53.7	53.2	53.2	53.2	52.8	52.8	53.7	54.1

Intensity Data [cd]		Page8
C\γ	180.0	
0.0	55.4	
30.0	55.8	
60.0	56.2	
90.0	56.7	
120.0	54.9	
150.0	54.9	
180.0	55.4	
210.0	55.8	
240.0	56.2	
270.0	56.7	
300.0	54.9	
330.0	54.9	
360.0	55.4	

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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	24505.30	0.00	0.00	0.00	0.00
1	24190.03	23.30	23.30	23.30	23.30
2	23317.15	68.19	91.49	68.19	91.49
3	22035.34	108.47	199.96	108.47	199.96
4	20521.74	142.45	342.41	142.45	342.41
5	18921.87	169.68	512.09	169.68	512.09
6	17290.06	190.30	702.40	190.30	702.40
7	15757.28	205.12	907.52	205.12	907.52
8	14285.20	215.01	1122.53	215.01	1122.53
9	12893.35	220.27	1342.80	220.27	1342.80
10	11618.64	221.82	1564.62	221.82	1564.62
11	10326.79	219.28	1783.90	219.28	1783.90
12	9204.29	213.50	1997.40	213.50	1997.40
13	8368.01	208.54	2205.94	208.54	2205.94
14	7337.84	201.03	2406.98	201.03	2406.98
15	6349.27	187.90	2594.88	187.90	2594.88
16	5533.68	174.12	2769.00	174.12	2769.00
17	4623.25	158.17	2927.17	158.17	2927.17
18	3947.27	141.31	3068.48	141.31	3068.48
19	3401.82	127.86	3196.34	127.86	3196.34
20	2958.92	116.42	3312.75	116.42	3312.75
21	2679.13	108.26	3421.02	108.26	3421.02
22	2480.80	103.69	3524.71	95.35	3516.37
23	2358.16	101.53	3626.24	8.84	3525.21
24	2245.78	100.66	3726.90	0.00	3525.21
25	2120.51	99.28	3826.18	0.00	3525.21
26	2035.42	98.10	3924.28	0.00	3525.21
27	1962.83	97.82	4022.10	0.00	3525.21
28	1893.29	97.63	4119.73	0.00	3525.21
29	1838.69	97.64	4217.37	0.00	3525.21
30	1781.22	97.74	4315.10	0.00	3525.21
31	1666.85	95.95	4411.06	0.00	3525.21
32	1481.77	90.20	4501.26	0.00	3525.21
33	1236.91	80.09	4581.36	0.00	3525.21
34	929.39	65.56	4646.91	0.00	3525.21
35	662.24	49.43	4696.34	0.00	3525.21
36	414.68	34.29	4730.63	0.00	3525.21
37	249.51	21.66	4752.30	0.00	3525.21
38	178.13	14.27	4766.57	0.00	3525.21
39	146.46	11.08	4777.65	0.00	3525.21
40	129.03	9.61	4787.26	0.00	3525.21

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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	116.82	8.75	4796.01	0.00	3525.21
42	96.91	7.77	4803.78	0.00	3525.21
43	78.31	6.49	4810.27	0.00	3525.21
44	68.01	5.52	4815.79	0.00	3525.21
45	57.36	4.82	4820.61	0.00	3525.21
46	49.80	4.19	4824.80	0.00	3525.21
47	44.37	3.75	4828.54	0.00	3525.21
48	40.25	3.42	4831.96	0.00	3525.21
49	37.73	3.20	4835.17	0.00	3525.21
50	35.36	3.05	4838.21	0.00	3525.21
51	33.33	2.91	4841.12	0.00	3525.21
52	31.91	2.80	4843.92	0.00	3525.21
53	30.49	2.71	4846.63	0.00	3525.21
54	29.57	2.65	4849.28	0.00	3525.21
55	28.65	2.60	4851.88	0.00	3525.21
56	28.18	2.57	4854.45	0.00	3525.21
57	28.04	2.57	4857.02	0.00	3525.21
58	28.36	2.61	4859.63	0.00	3525.21
59	28.72	2.67	4862.30	0.00	3525.21
60	28.29	2.69	4864.99	0.00	3525.21
61	27.44	2.66	4867.65	0.00	3525.21
62	26.06	2.58	4870.23	0.00	3525.21
63	24.56	2.46	4872.69	0.00	3525.21
64	23.18	2.34	4875.03	0.00	3525.21
65	22.04	2.24	4877.27	0.00	3525.21
66	21.19	2.16	4879.43	0.00	3525.21
67	20.30	2.09	4881.51	0.00	3525.21
68	19.35	2.01	4883.52	0.00	3525.21
69	18.46	1.93	4885.45	0.00	3525.21
70	17.61	1.85	4887.30	0.00	3525.21
71	16.61	1.77	4889.07	0.00	3525.21
72	15.58	1.67	4890.75	0.00	3525.21
73	14.70	1.58	4892.33	0.00	3525.21
74	13.67	1.49	4893.82	0.00	3525.21
75	12.46	1.38	4895.20	0.00	3525.21
76	10.33	1.21	4896.41	0.00	3525.21
77	7.92	0.97	4897.39	0.00	3525.21
78	4.65	0.67	4898.06	0.00	3525.21
79	2.95	0.41	4898.47	0.00	3525.21
80	2.41	0.29	4898.76	0.00	3525.21
81	2.13	0.25	4899.00	0.00	3525.21

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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	1.81	0.21	4899.21	0.00	3525.21
83	1.46	0.18	4899.39	0.00	3525.21
84	1.10	0.14	4899.54	0.00	3525.21
85	0.96	0.11	4899.65	0.00	3525.21
86	0.71	0.09	4899.74	0.00	3525.21
87	0.57	0.07	4899.81	0.00	3525.21
88	0.39	0.05	4899.86	0.00	3525.21
89	0.21	0.03	4899.90	0.00	3525.21
90	0.00	0.01	4899.91	0.00	3525.21
91	0.00	0.00	4899.91	0.00	3525.21
92	0.00	0.00	4899.91	0.00	3525.21
93	0.00	0.00	4899.91	0.00	3525.21
94	0.00	0.00	4899.91	0.00	3525.21
95	0.00	0.00	4899.91	0.00	3525.21
96	0.00	0.00	4899.91	0.00	3525.21
97	0.00	0.00	4899.91	0.00	3525.21
98	0.00	0.00	4899.91	0.00	3525.21
99	0.00	0.00	4899.91	0.00	3525.21
100	0.00	0.00	4899.91	0.00	3525.21
101	0.00	0.00	4899.91	0.00	3525.21
102	0.00	0.00	4899.91	0.00	3525.21
103	0.00	0.00	4899.91	0.00	3525.21
104	0.00	0.00	4899.91	0.00	3525.21
105	0.00	0.00	4899.91	0.00	3525.21
106	0.00	0.00	4899.91	0.00	3525.21
107	0.00	0.00	4899.91	0.00	3525.21
108	0.00	0.00	4899.91	0.00	3525.21
109	0.00	0.00	4899.91	0.00	3525.21
110	0.00	0.00	4899.91	0.00	3525.21
111	0.00	0.00	4899.91	0.00	3525.21
112	0.00	0.00	4899.91	0.00	3525.21
113	0.00	0.00	4899.91	0.00	3525.21
114	0.04	0.00	4899.91	0.00	3525.21
115	0.00	0.00	4899.91	0.00	3525.21
116	0.00	0.00	4899.91	0.00	3525.21
117	0.07	0.00	4899.92	0.00	3525.21
118	0.00	0.00	4899.92	0.00	3525.21
119	0.00	0.00	4899.92	0.00	3525.21
120	0.07	0.00	4899.92	0.00	3525.21
121	0.14	0.01	4899.93	0.00	3525.21
122	0.21	0.02	4899.95	0.00	3525.21

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Zonal flux distribution table

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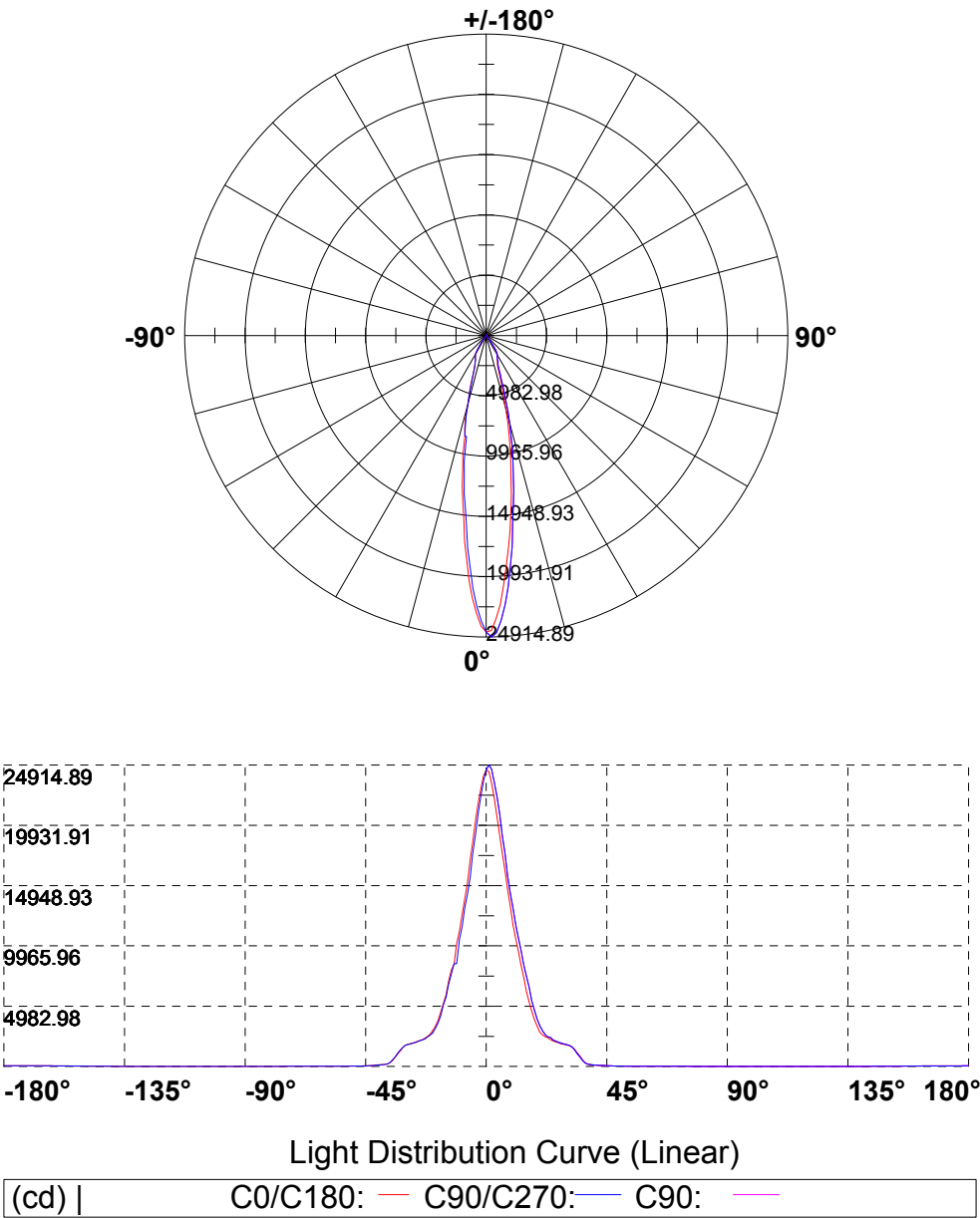
Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
123	0.25	0.02	4899.97	0.00	3525.21
124	0.32	0.03	4900.00	0.00	3525.21
125	0.50	0.04	4900.04	0.00	3525.21
126	0.64	0.05	4900.09	0.00	3525.21
127	0.78	0.06	4900.15	0.00	3525.21
128	1.03	0.08	4900.23	0.00	3525.21
129	1.24	0.10	4900.32	0.00	3525.21
130	1.46	0.11	4900.44	0.00	3525.21
131	1.70	0.13	4900.57	0.00	3525.21
132	2.13	0.16	4900.73	0.00	3525.21
133	2.52	0.19	4900.92	0.00	3525.21
134	2.91	0.22	4901.13	0.00	3525.21
135	3.51	0.25	4901.38	0.00	3525.21
136	4.26	0.30	4901.68	0.00	3525.21
137	5.01	0.35	4902.03	0.00	3525.21
138	6.21	0.42	4902.44	0.00	3525.21
139	7.35	0.49	4902.94	0.00	3525.21
140	8.84	0.58	4903.51	0.00	3525.21
141	10.40	0.67	4904.18	0.00	3525.21
142	12.28	0.77	4904.96	0.00	3525.21
143	14.27	0.89	4905.84	0.00	3525.21
144	16.08	0.99	4906.83	0.00	3525.21
145	18.10	1.09	4907.92	0.00	3525.21
146	20.30	1.19	4909.12	0.00	3525.21
147	22.47	1.29	4910.41	0.00	3525.21
148	24.46	1.38	4911.79	0.00	3525.21
149	26.45	1.46	4913.25	0.00	3525.21
150	28.47	1.53	4914.78	0.00	3525.21
151	30.39	1.59	4916.37	0.00	3525.21
152	32.44	1.64	4918.01	0.00	3525.21
153	34.22	1.69	4919.70	0.00	3525.21
154	36.14	1.72	4921.42	0.00	3525.21
155	38.05	1.75	4923.17	0.00	3525.21
156	39.65	1.77	4924.94	0.00	3525.21
157	41.25	1.77	4926.71	0.00	3525.21
158	42.95	1.77	4928.48	0.00	3525.21
159	44.41	1.76	4930.23	0.00	3525.21
160	45.97	1.74	4931.97	0.00	3525.21
161	47.42	1.71	4933.68	0.00	3525.21
162	48.77	1.67	4935.35	0.00	3525.21
163	50.23	1.63	4936.98	0.00	3525.21

R854 WNL (CRI90 1400mA 20D)

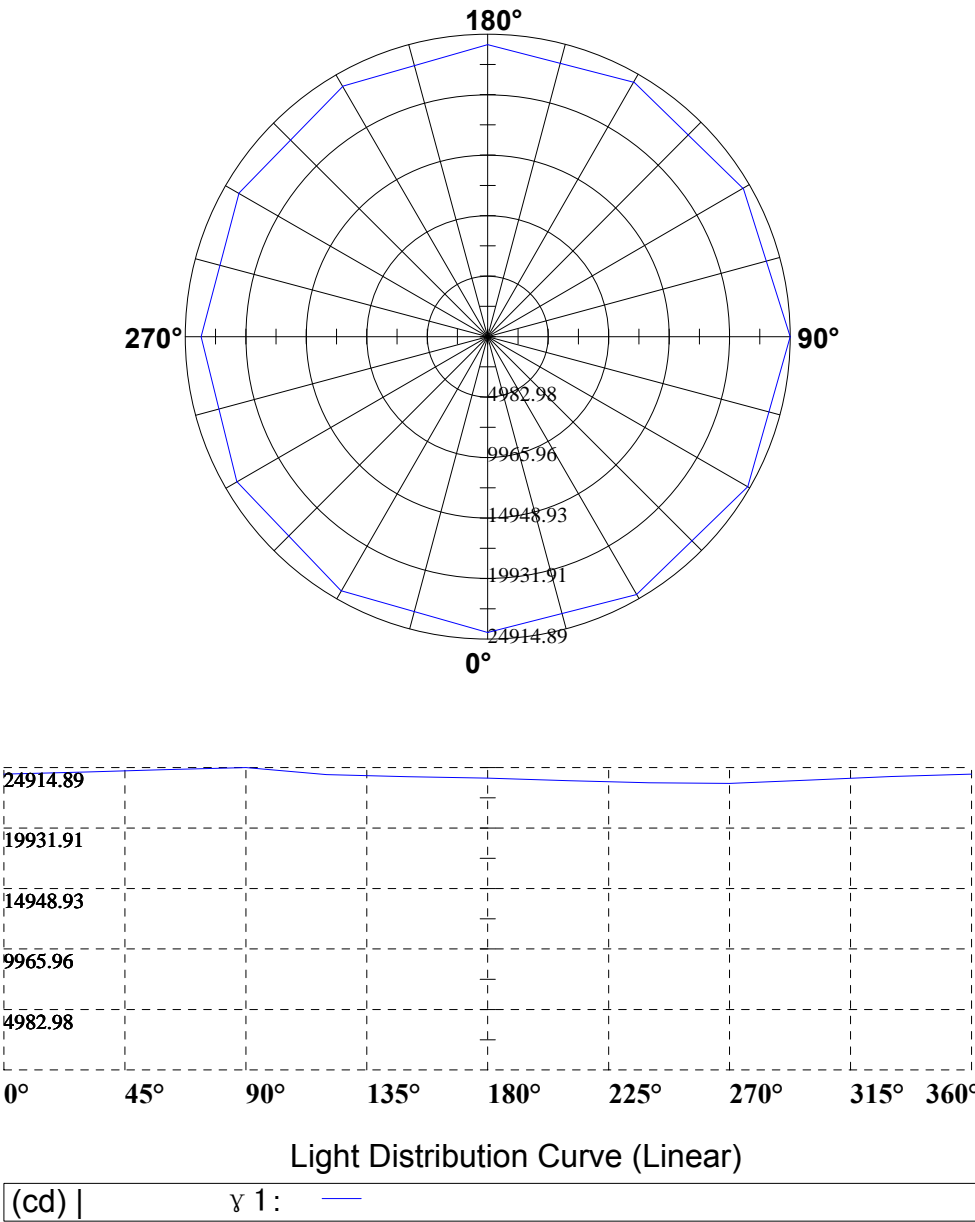
Zonal flux distribution table

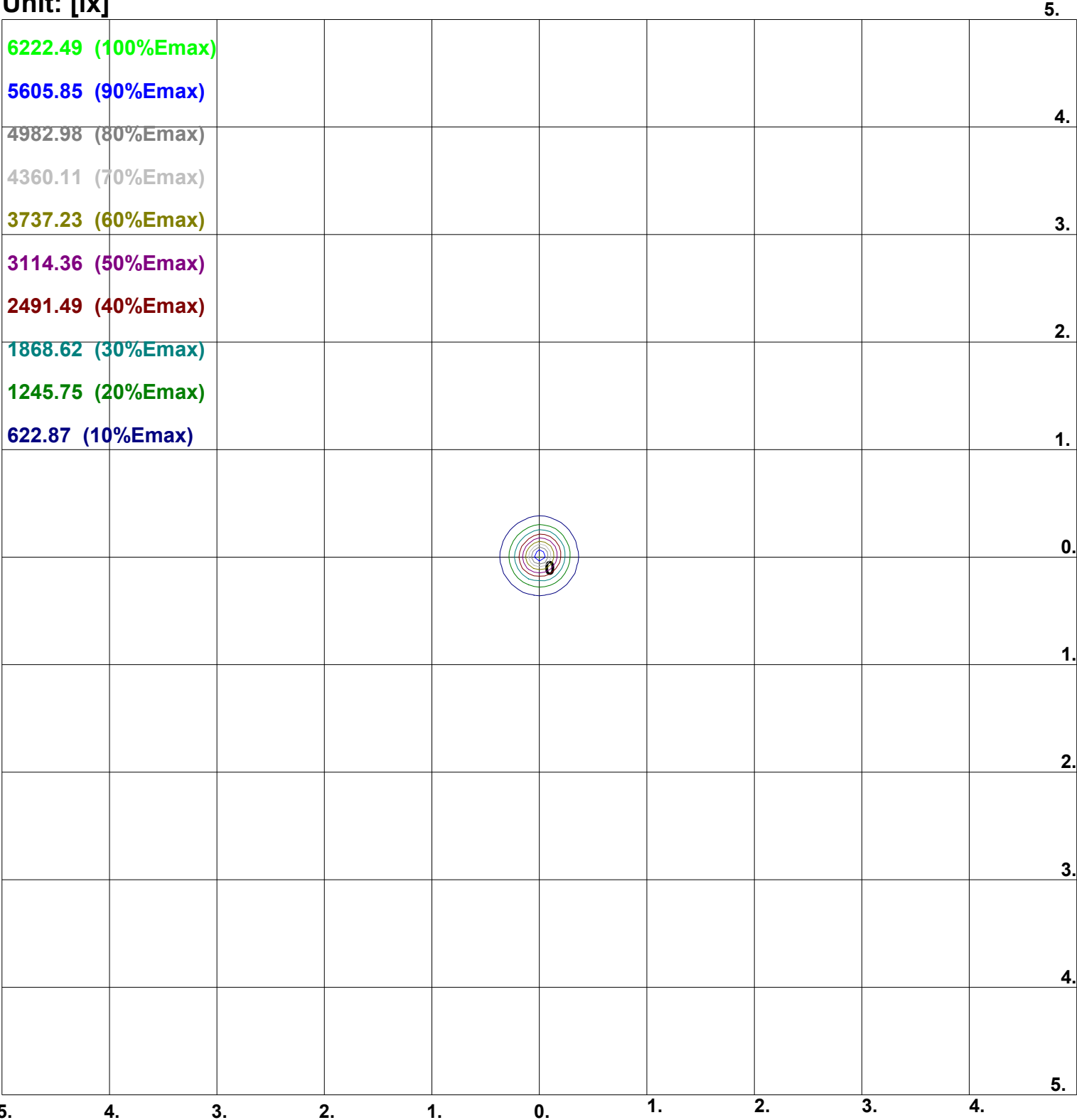
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[illegible]



Horizontal cone through Max.cd [Unit: cd]





Coordinate Scale: d/h
Height: 2 m
Max Illuminance : 6228.72lx

Luminance Limiting Curve (There is not luminous side)

Diameter: 140mm

Length: -140mm

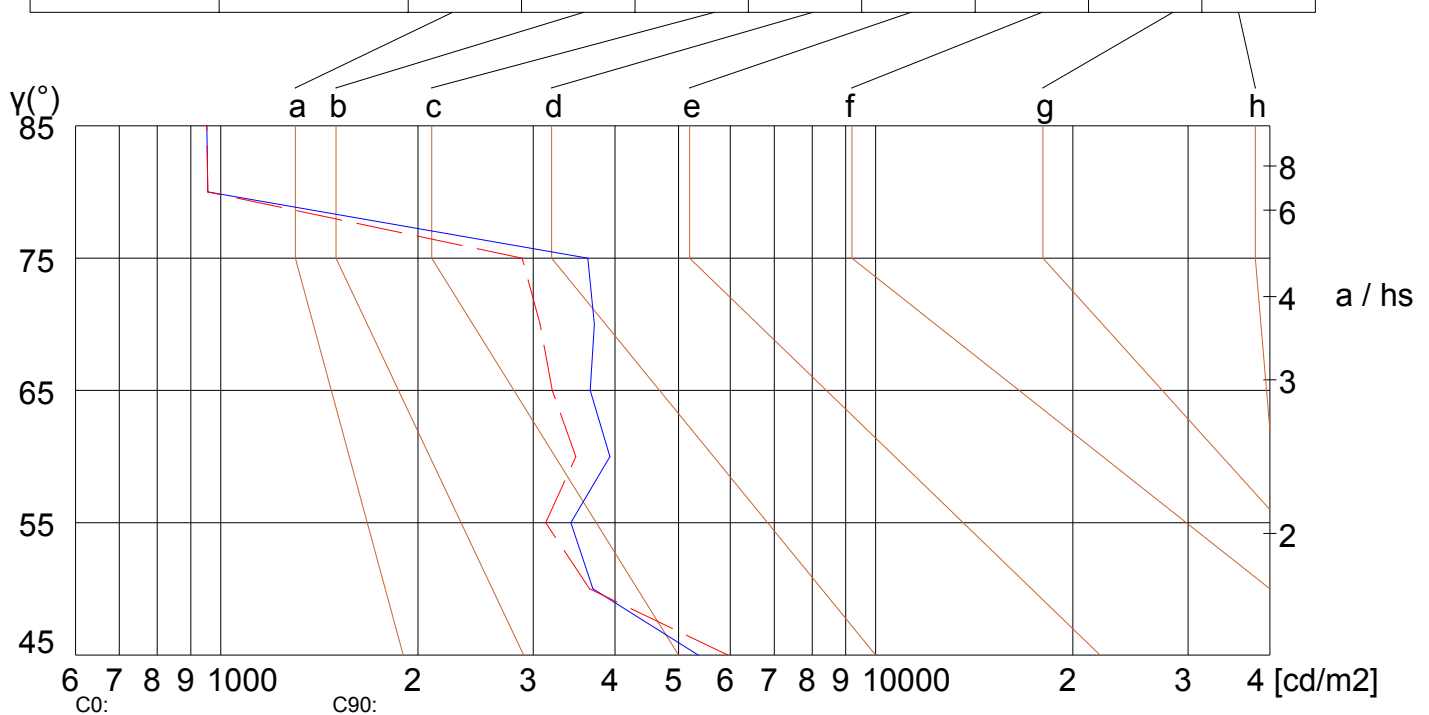
Width: -140mm

Height: 100mm

(cd/m²)

γ	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	5946	3658	3135	3485	3207	3073	2886	956	952
C90	5359	3701	3424	3928	3665	3720	3634	956	952

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 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	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	1.02	1.02	1.01	1.01	1.00	0.99	0.97	0.96	0.95	0.92	0.91	0.90	0.85	0.84	0.83	0.79
2	0.98	0.97	0.97	0.96	0.95	0.95	0.93	0.91	0.90	0.88	0.87	0.86	0.83	0.81	0.80	0.76
3	0.94	0.93	0.92	0.92	0.91	0.90	0.89	0.87	0.86	0.85	0.83	0.82	0.80	0.78	0.76	0.72
4	0.90	0.89	0.89	0.89	0.87	0.87	0.86	0.84	0.83	0.82	0.80	0.78	0.78	0.75	0.73	0.70
5	0.87	0.86	0.85	0.85	0.84	0.83	0.82	0.81	0.79	0.79	0.77	0.75	0.75	0.73	0.70	0.67
6	0.84	0.83	0.82	0.82	0.81	0.80	0.80	0.78	0.76	0.77	0.74	0.72	0.73	0.70	0.68	0.64
7	0.81	0.80	0.79	0.79	0.78	0.77	0.77	0.75	0.73	0.74	0.71	0.70	0.71	0.68	0.65	0.62
8	0.78	0.77	0.76	0.77	0.75	0.75	0.74	0.72	0.71	0.72	0.69	0.67	0.69	0.66	0.63	0.60
9	0.75	0.75	0.74	0.74	0.73	0.72	0.72	0.70	0.69	0.69	0.67	0.65	0.67	0.64	0.61	0.58
10	0.73	0.72	0.72	0.72	0.71	0.70	0.70	0.68	0.66	0.67	0.65	0.63	0.65	0.62	0.59	0.56

