

R854 WNL (CRI90 900mA 20D)

Luminaire Name: R854 WNL (CRI90 900mA 20D)

Report NO.: 01313217032406A

Test NO.:

Lamp: CITIZEN CLU038-1208C4-403H5M3 900mA

Sum Lumens: 3921.1 lm

Number of Lamps: 1

Diameter: 140mm

Length: -140mm

Photometric Type: Type C

Voltage: 230.18 V

Current: 0.1558 A

Power: 34.892 W

Power Factor: 0.9732

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

Width: -140mm

Height: 100mm

Optical Component: 20D Reflector DC(V:35.61V I:0.906A P:32.26W)

Photometric Results

Lumens: 3500.30 lm

Efficiency: 89.27%

Central Intensity: 17155.06cd

Maximum Intensity: 17336.91cd

Beam Angle(10%): Left: -22.7 Right:21.9

Maximum s/h: C0_180: 0.18 C90_270: 0.17

Effective Luminous Flux: 2529.11 lm

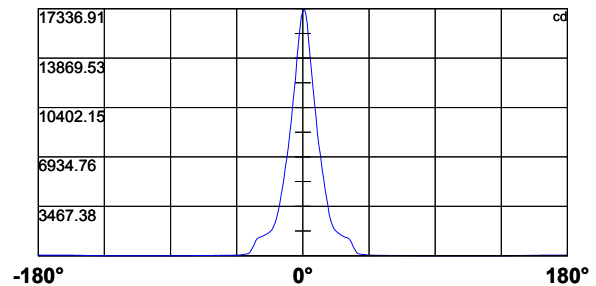
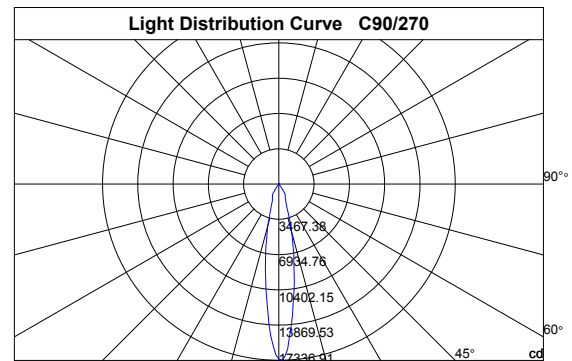
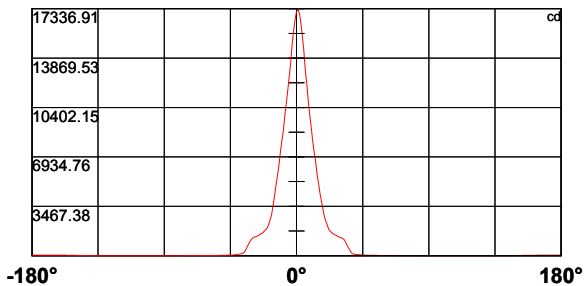
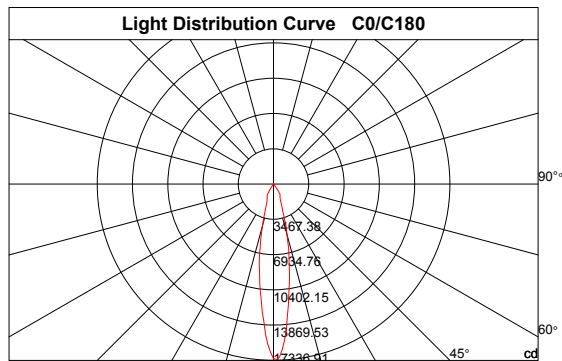
Angle of maximum intensity: C:60.0 G:1.0

Half Peak Side Angle(50%): Left: -9.7 Right:9.3

Up Flux Rate: 0.77%

Down Flux Rate: 88.5%

CIE Classification: Direct



R854 WNL (CRI90 900mA 20D)

Page2

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	17155.1	17251.7	16987.6	16276.3	15390.2	14380.7	13009.1	11986.8	10819.6	9869.7
30.0	17155.1	17311.3	17043.0	16301.8	15428.6	14440.3	13243.4	12221.0	10870.7	9920.8
60.0	17155.1	17336.9	17068.6	16331.6	15454.1	14099.5	13026.1	11982.5	10802.6	9844.1
90.0	17155.1	17336.9	16936.5	16255.0	15006.9	13950.5	12868.5	11641.7	10640.7	9699.3
120.0	17155.1	16983.4	15978.1	15070.8	14074.0	13030.4	11692.8	10892.0	9716.3	8855.9
150.0	17155.1	16621.3	15880.1	14960.0	13818.4	12842.9	11565.0	10640.7	9758.9	8936.8
180.0	17155.1	16557.4	15782.1	14853.5	13558.6	12630.0	11552.3	10649.2	9822.8	8774.9
210.0	17155.1	16472.2	15650.1	14695.9	13550.0	12595.9	11330.8	10559.8	9703.6	8613.1
240.0	17155.1	16591.5	15782.1	14836.5	13481.9	12480.9	11313.7	10351.0	9439.5	8285.1
270.0	17155.1	16795.9	15909.9	14964.3	13912.1	12506.4	11462.8	10461.8	9367.0	8498.1
300.0	17155.1	17008.9	16438.1	15658.6	14700.2	13268.9	12208.3	11173.2	9260.6	8979.4
330.0	17155.1	17149.5	16817.2	15931.2	15006.9	13788.6	12740.7	11697.1	10517.2	9588.5
360.0	17155.1	17251.7	16987.6	16276.3	15390.2	14380.7	13009.1	11986.8	10819.6	9869.7

C\γ	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
0.0	9013.5	8063.6	7301.1	6572.7	5673.9	5052.0	4366.2	3812.4	3297.0	2700.6
30.0	9047.6	8106.2	7339.4	6611.0	5827.2	5213.9	4617.5	3880.6	3360.9	2811.4
60.0	8970.9	7995.4	7224.4	6504.5	5635.6	5022.2	4340.6	3786.9	3258.7	2641.0
90.0	8527.9	7710.0	7075.3	6133.9	5486.5	4753.8	4153.2	3573.9	2879.5	2462.1
120.0	8012.5	7237.2	6278.8	5708.0	5047.7	4195.8	3590.9	2964.7	2538.8	2227.8
150.0	7833.6	7049.8	6436.4	5520.5	4839.0	4191.5	3480.2	2956.2	2530.3	2134.1
180.0	8106.2	7318.1	6317.1	5614.3	4937.0	4178.7	3573.9	2896.6	2491.9	2185.2
210.0	7820.8	7054.0	6193.6	5507.8	4843.3	4012.6	3454.6	2909.4	2526.0	2219.3
240.0	7612.1	6866.6	5929.5	5290.5	4664.4	3982.8	3450.3	2849.7	2496.2	2206.5
270.0	7569.5	6832.5	6146.7	5311.8	4711.2	4144.7	3527.0	3054.2	2594.1	2283.2
300.0	8165.8	7394.8	6555.7	5891.1	5265.0	4485.4	4025.4	3505.7	2892.3	2513.2
330.0	8740.9	7688.7	6947.5	6240.4	5478.0	4868.8	4195.8	3650.5	3156.4	2602.7
360.0	9013.5	8063.6	7301.1	6572.7	5673.9	5052.0	4366.2	3812.4	3297.0	2700.6

C\γ	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
0.0	2398.2	2108.5	1840.2	1716.7	1610.2	1533.5	1473.8	1422.7	1354.6	1312.0
30.0	2415.2	2112.8	1870.0	1742.2	1644.2	1546.3	1486.6	1435.5	1375.9	1329.0
60.0	2334.3	2061.7	1831.7	1716.7	1618.7	1546.3	1486.6	1414.2	1363.1	1329.0
90.0	2155.4	1921.1	1793.3	1695.4	1597.4	1529.2	1448.3	1384.4	1337.5	1290.7
120.0	1963.7	1827.4	1712.4	1622.9	1550.5	1469.6	1405.7	1358.8	1307.7	1273.6
150.0	1955.2	1827.4	1703.9	1618.7	1520.7	1469.6	1410.0	1346.1	1307.7	1273.6
180.0	1950.9	1818.9	1716.7	1614.4	1542.0	1486.6	1410.0	1367.4	1333.3	1286.4
210.0	1968.0	1823.1	1720.9	1610.2	1546.3	1482.4	1410.0	1367.4	1324.8	1286.4
240.0	1959.5	1810.4	1703.9	1614.4	1546.3	1486.6	1410.0	1363.1	1324.8	1282.2
270.0	2048.9	1827.4	1716.7	1631.5	1554.8	1499.4	1448.3	1384.4	1341.8	1303.5
300.0	2168.2	1950.9	1789.1	1640.0	1563.3	1499.4	1444.0	1397.2	1346.1	1303.5
330.0	2274.7	2023.3	1814.6	1691.1	1576.1	1512.2	1469.6	1401.4	1350.3	1312.0
360.0	2398.2	2108.5	1840.2	1716.7	1610.2	1533.5	1473.8	1422.7	1354.6	1312.0

R854 WNL (CRI90 900mA 20D)

Page3

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	1282.2	1235.3	1158.6	1018.1	788.0	600.6	426.0	242.8	144.8	110.8
30.0	1282.2	1248.1	1175.7	988.2	805.1	617.7	408.9	259.8	161.9	119.3
60.0	1282.2	1243.8	1150.1	971.2	788.0	600.6	362.1	217.2	136.3	119.3
90.0	1260.9	1214.0	1090.5	932.9	677.3	485.6	319.5	178.9	123.5	106.5
120.0	1222.5	1103.3	945.6	758.2	523.9	349.3	191.7	132.1	110.8	93.7
150.0	1209.8	1086.2	928.6	681.5	494.1	306.7	191.7	140.6	119.3	102.2
180.0	1239.6	1090.5	920.1	736.9	523.9	332.3	200.2	144.8	123.5	106.5
210.0	1239.6	1082.0	915.8	732.7	515.4	345.0	200.2	136.3	119.3	98.0
240.0	1239.6	1124.6	966.9	779.5	532.5	357.8	213.0	132.1	110.8	98.0
270.0	1265.1	1192.7	1047.9	805.1	604.9	421.7	242.8	157.6	127.8	110.8
300.0	1269.4	1218.3	1137.3	996.8	779.5	579.3	383.4	217.2	144.8	119.3
330.0	1273.6	1235.3	1171.4	984.0	800.8	613.4	430.2	242.8	149.1	110.8
360.0	1282.2	1235.3	1158.6	1018.1	788.0	600.6	426.0	242.8	144.8	110.8

C\γ	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0
0.0	89.5	80.9	72.4	59.6	55.4	46.9	38.3	34.1	29.8	25.6
30.0	102.2	93.7	85.2	63.9	59.6	46.9	42.6	38.3	29.8	29.8
60.0	102.2	93.7	89.5	59.6	55.4	46.9	38.3	34.1	29.8	25.6
90.0	89.5	85.2	76.7	59.6	51.1	42.6	38.3	34.1	29.8	25.6
120.0	80.9	72.4	63.9	55.4	46.9	38.3	34.1	29.8	25.6	25.6
150.0	93.7	76.7	59.6	55.4	42.6	38.3	29.8	29.8	25.6	21.3
180.0	98.0	80.9	59.6	55.4	42.6	34.1	29.8	29.8	25.6	25.6
210.0	89.5	76.7	59.6	51.1	38.3	34.1	34.1	25.6	25.6	25.6
240.0	80.9	68.2	59.6	51.1	42.6	38.3	34.1	25.6	25.6	21.3
270.0	98.0	89.5	59.6	55.4	42.6	38.3	34.1	29.8	25.6	25.6
300.0	98.0	93.7	89.5	59.6	51.1	42.6	38.3	34.1	29.8	25.6
330.0	93.7	85.2	80.9	59.6	51.1	42.6	38.3	34.1	29.8	25.6
360.0	89.5	80.9	72.4	59.6	55.4	46.9	38.3	34.1	29.8	25.6

C\γ	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0
0.0	25.6	25.6	21.3	21.3	21.3	21.3	17.0	17.0	17.0	17.0
30.0	25.6	25.6	21.3	21.3	21.3	21.3	17.0	17.0	17.0	17.0
60.0	25.6	25.6	21.3	21.3	21.3	21.3	21.3	21.3	17.0	17.0
90.0	25.6	25.6	21.3	21.3	21.3	17.0	21.3	17.0	17.0	17.0
120.0	25.6	21.3	21.3	17.0	21.3	17.0	17.0	17.0	17.0	17.0
150.0	25.6	21.3	21.3	17.0	17.0	21.3	17.0	17.0	17.0	17.0
180.0	21.3	21.3	21.3	17.0	17.0	17.0	17.0	17.0	17.0	17.0
210.0	21.3	21.3	21.3	21.3	21.3	17.0	17.0	17.0	21.3	17.0
240.0	21.3	21.3	21.3	21.3	21.3	17.0	17.0	17.0	21.3	17.0
270.0	21.3	21.3	21.3	21.3	21.3	21.3	21.3	17.0	17.0	21.3
300.0	25.6	25.6	21.3	21.3	17.0	17.0	17.0	17.0	17.0	21.3
330.0	25.6	21.3	21.3	21.3	17.0	17.0	17.0	17.0	17.0	17.0
360.0	25.6	25.6	21.3	21.3	21.3	21.3	17.0	17.0	17.0	17.0

R854 WNL (CRI90 900mA 20D)

Intensity Data [cd]

Page4

C\γ	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0
0.0	17.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8
30.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8	12.8
60.0	17.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	8.5
90.0	17.0	17.0	17.0	17.0	17.0	12.8	12.8	8.5	8.5	8.5
120.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8	12.8	12.8
150.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	8.5	12.8	12.8
180.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8	8.5
210.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8	8.5
240.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8	8.5
270.0	21.3	17.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8
300.0	17.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8
330.0	17.0	17.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8
360.0	17.0	17.0	17.0	17.0	17.0	12.8	12.8	12.8	12.8	12.8

C\γ	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0
0.0	8.5	12.8	8.5	8.5	8.5	4.3	4.3	8.5	4.3	0.0
30.0	8.5	8.5	4.3	8.5	8.5	8.5	4.3	4.3	4.3	0.0
60.0	8.5	8.5	8.5	8.5	8.5	4.3	4.3	4.3	0.0	0.0
90.0	8.5	8.5	8.5	8.5	8.5	4.3	4.3	4.3	0.0	0.0
120.0	8.5	8.5	8.5	8.5	8.5	8.5	4.3	4.3	0.0	0.0
150.0	8.5	8.5	8.5	8.5	4.3	4.3	4.3	4.3	0.0	0.0
180.0	8.5	8.5	8.5	8.5	8.5	4.3	4.3	8.5	4.3	0.0
210.0	8.5	8.5	8.5	8.5	8.5	4.3	4.3	4.3	4.3	0.0
240.0	8.5	8.5	8.5	8.5	8.5	4.3	4.3	4.3	0.0	0.0
270.0	8.5	12.8	8.5	8.5	8.5	8.5	8.5	0.0	0.0	0.0
300.0	12.8	12.8	8.5	8.5	8.5	4.3	8.5	4.3	0.0	0.0
330.0	12.8	8.5	8.5	8.5	8.5	8.5	8.5	4.3	0.0	0.0
360.0	8.5	12.8	8.5	8.5	8.5	4.3	4.3	8.5	4.3	0.0

C\γ	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	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 900mA 20D)

Intensity Data [cd]

Page5

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 900mA 20D)

Page6

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	0.0	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	130.0	131.0	132.0	133.0	134.0	135.0	136.0	137.0	138.0	139.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0
30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	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	4.3
120.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
150.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	4.3	4.3
180.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
210.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3	4.3
240.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	4.3	4.3	4.3
270.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
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	4.3	0.0

C\γ	140.0	141.0	142.0	143.0	144.0	145.0	146.0	147.0	148.0	149.0
0.0	4.3	4.3	4.3	4.3	4.3	8.5	8.5	8.5	12.8	12.8
30.0	4.3	4.3	4.3	4.3	8.5	8.5	8.5	12.8	12.8	12.8
60.0	0.0	4.3	4.3	4.3	8.5	8.5	8.5	12.8	12.8	12.8
90.0	4.3	0.0	0.0	4.3	4.3	8.5	8.5	12.8	12.8	12.8
120.0	4.3	8.5	8.5	8.5	12.8	12.8	17.0	17.0	17.0	21.3
150.0	4.3	8.5	8.5	8.5	12.8	12.8	17.0	17.0	21.3	17.0
180.0	4.3	8.5	8.5	8.5	12.8	12.8	17.0	17.0	17.0	17.0
210.0	4.3	8.5	8.5	12.8	12.8	12.8	17.0	17.0	17.0	21.3
240.0	8.5	8.5	8.5	8.5	12.8	12.8	17.0	17.0	17.0	21.3
270.0	4.3	8.5	8.5	8.5	12.8	12.8	17.0	17.0	17.0	21.3
300.0	0.0	4.3	4.3	4.3	8.5	8.5	8.5	8.5	12.8	12.8
330.0	0.0	4.3	4.3	4.3	4.3	8.5	8.5	8.5	12.8	12.8
360.0	4.3	4.3	4.3	4.3	4.3	8.5	8.5	8.5	12.8	12.8

R854 WNL (CRI90 900mA 20D)**Intensity Data [cd]****Page7**

C\γ	150.0	151.0	152.0	153.0	154.0	155.0	156.0	157.0	158.0	159.0
0.0	12.8	17.0	17.0	17.0	21.3	21.3	21.3	21.3	21.3	25.6
30.0	12.8	17.0	17.0	17.0	21.3	17.0	21.3	21.3	25.6	25.6
60.0	12.8	17.0	17.0	17.0	17.0	21.3	21.3	21.3	25.6	21.3
90.0	17.0	17.0	17.0	21.3	17.0	21.3	25.6	21.3	25.6	25.6
120.0	21.3	21.3	21.3	25.6	25.6	25.6	25.6	29.8	29.8	29.8
150.0	21.3	21.3	21.3	25.6	25.6	25.6	25.6	29.8	29.8	29.8
180.0	21.3	21.3	21.3	25.6	25.6	25.6	25.6	29.8	29.8	29.8
210.0	21.3	21.3	21.3	25.6	25.6	25.6	29.8	25.6	29.8	29.8
240.0	21.3	21.3	25.6	25.6	25.6	25.6	29.8	29.8	29.8	29.8
270.0	21.3	25.6	25.6	25.6	25.6	25.6	29.8	29.8	29.8	29.8
300.0	12.8	17.0	17.0	17.0	21.3	21.3	21.3	21.3	21.3	25.6
330.0	12.8	12.8	17.0	17.0	17.0	21.3	21.3	21.3	25.6	25.6
360.0	12.8	17.0	17.0	17.0	21.3	21.3	21.3	21.3	21.3	25.6

C\γ	160.0	161.0	162.0	163.0	164.0	165.0	166.0	167.0	168.0	169.0
0.0	25.6	25.6	25.6	29.8	29.8	29.8	29.8	29.8	29.8	34.1
30.0	25.6	25.6	25.6	29.8	29.8	29.8	29.8	29.8	29.8	34.1
60.0	25.6	25.6	29.8	25.6	25.6	29.8	29.8	29.8	34.1	34.1
90.0	25.6	25.6	29.8	29.8	29.8	29.8	29.8	34.1	34.1	29.8
120.0	29.8	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
150.0	29.8	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
180.0	29.8	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
210.0	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	38.3
240.0	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
270.0	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
300.0	25.6	25.6	29.8	29.8	29.8	29.8	29.8	29.8	34.1	29.8
330.0	25.6	25.6	29.8	29.8	29.8	29.8	29.8	29.8	34.1	29.8
360.0	25.6	25.6	25.6	29.8	29.8	29.8	29.8	29.8	29.8	34.1

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	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
30.0	29.8	34.1	29.8	34.1	34.1	34.1	29.8	34.1	34.1	34.1
60.0	29.8	34.1	34.1	29.8	34.1	34.1	29.8	34.1	34.1	34.1
90.0	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
120.0	34.1	38.3	38.3	34.1	34.1	34.1	34.1	29.8	34.1	34.1
150.0	38.3	38.3	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
180.0	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
210.0	38.3	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
240.0	34.1	38.3	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
270.0	34.1	38.3	34.1	38.3	34.1	34.1	34.1	34.1	34.1	34.1
300.0	34.1	34.1	34.1	34.1	34.1	34.1	29.8	34.1	29.8	34.1
330.0	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
360.0	34.1	29.8	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1

Intensity Data [cd]		Page8
C\γ	180.0	
0.0	34.1	
30.0	34.1	
60.0	34.1	
90.0	34.1	
120.0	34.1	
150.0	34.1	
180.0	34.1	
210.0	34.1	
240.0	34.1	
270.0	34.1	
300.0	34.1	
330.0	34.1	
360.0	34.1	

R854 WNL (CRI90 900mA 20D)

Zonal flux distribution table

Page9

Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
0	17155.06	0.00	0.00	0.00	0.00
1	16951.41	16.32	16.32	16.32	16.32
2	16356.12	47.81	64.13	47.81	64.13
3	15511.28	76.22	140.34	76.22	140.34
4	14448.49	100.29	240.63	100.29	240.63
5	13334.58	119.52	360.15	119.52	360.15
6	12167.78	134.02	494.17	134.02	494.17
7	11188.06	144.97	639.14	144.97	639.14
8	10059.95	152.07	791.21	152.07	791.21
9	9155.48	155.73	946.94	155.73	946.94
10	8285.08	157.83	1104.77	157.83	1104.77
11	7443.09	157.16	1261.93	157.16	1261.93
12	6645.46	154.01	1415.93	154.01	1415.93
13	5908.89	148.99	1564.92	148.99	1564.92
14	5200.72	142.20	1707.13	142.20	1707.13
15	4508.52	133.29	1840.42	133.29	1840.42
16	3897.97	123.18	1963.60	123.18	1963.60
17	3320.07	112.40	2076.00	112.40	2076.00
18	2835.17	101.49	2177.49	101.49	2177.49
19	2415.60	91.35	2268.84	91.35	2268.84
20	2132.68	83.25	2352.09	83.25	2352.09
21	1926.09	77.94	2430.02	77.94	2430.02
22	1767.77	74.23	2504.25	74.23	2504.25
23	1659.50	71.91	2576.16	30.92	2535.17
24	1572.53	70.66	2646.83	0.00	2535.17
25	1505.09	69.98	2716.81	0.00	2535.17
26	1441.90	69.56	2786.37	0.00	2535.17
27	1386.88	69.21	2855.58	0.00	2535.17
28	1338.96	69.01	2924.59	0.00	2535.17
29	1298.49	69.00	2993.59	0.00	2535.17
30	1255.54	68.96	3062.55	0.00	2535.17
31	1172.83	67.58	3130.13	0.00	2535.17
32	1050.72	63.70	3193.83	0.00	2535.17
33	865.43	56.45	3250.28	0.00	2535.17
34	652.80	45.95	3296.23	0.00	2535.17
35	467.50	34.79	3331.02	0.00	2535.17
36	297.47	24.36	3355.38	0.00	2535.17
37	183.52	15.69	3371.07	0.00	2535.17
38	130.99	10.50	3381.56	0.00	2535.17
39	107.91	8.15	3389.72	0.00	2535.17
40	93.00	7.01	3396.73	0.00	2535.17

R854 WNL (CRI90 900mA 20D)

Zonal flux distribution table

Page10

Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
41	83.06	6.27	3402.99	0.00	2535.17
42	71.35	5.61	3408.60	0.00	2535.17
43	57.15	4.76	3413.36	0.00	2535.17
44	48.28	3.98	3417.34	0.00	2535.17
45	40.82	3.42	3420.77	0.00	2535.17
46	35.85	3.00	3423.77	0.00	2535.17
47	31.59	2.68	3426.45	0.00	2535.17
48	27.69	2.40	3428.85	0.00	2535.17
49	25.20	2.17	3431.02	0.00	2535.17
50	24.14	2.06	3433.07	0.00	2535.17
51	23.07	2.00	3435.07	0.00	2535.17
52	21.30	1.90	3436.98	0.00	2535.17
53	20.23	1.81	3438.78	0.00	2535.17
54	19.88	1.77	3440.55	0.00	2535.17
55	18.81	1.73	3442.28	0.00	2535.17
56	18.10	1.67	3443.95	0.00	2535.17
57	17.39	1.62	3445.57	0.00	2535.17
58	17.75	1.63	3447.19	0.00	2535.17
59	17.75	1.66	3448.85	0.00	2535.17
60	17.39	1.66	3450.52	0.00	2535.17
61	17.04	1.64	3452.16	0.00	2535.17
62	17.04	1.64	3453.80	0.00	2535.17
63	16.33	1.62	3455.42	0.00	2535.17
64	14.91	1.53	3456.96	0.00	2535.17
65	13.49	1.41	3458.36	0.00	2535.17
66	12.78	1.31	3459.67	0.00	2535.17
67	12.07	1.25	3460.92	0.00	2535.17
68	12.42	1.24	3462.16	0.00	2535.17
69	11.00	1.20	3463.36	0.00	2535.17
70	9.23	1.04	3464.40	0.00	2535.17
71	9.58	0.97	3465.37	0.00	2535.17
72	8.16	0.92	3466.29	0.00	2535.17
73	8.52	0.87	3467.16	0.00	2535.17
74	8.16	0.88	3468.04	0.00	2535.17
75	5.68	0.73	3468.77	0.00	2535.17
76	5.32	0.58	3469.36	0.00	2535.17
77	4.61	0.53	3469.89	0.00	2535.17
78	1.42	0.32	3470.21	0.00	2535.17
79	0.00	0.08	3470.29	0.00	2535.17
80	0.00	0.00	3470.29	0.00	2535.17
81	0.00	0.00	3470.29	0.00	2535.17

R854 WNL (CRI90 900mA 20D)

Zonal flux distribution table

Page11

Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
82	0.00	0.00	3470.29	0.00	2535.17
83	0.00	0.00	3470.29	0.00	2535.17
84	0.00	0.00	3470.29	0.00	2535.17
85	0.00	0.00	3470.29	0.00	2535.17
86	0.00	0.00	3470.29	0.00	2535.17
87	0.00	0.00	3470.29	0.00	2535.17
88	0.00	0.00	3470.29	0.00	2535.17
89	0.00	0.00	3470.29	0.00	2535.17
90	0.00	0.00	3470.29	0.00	2535.17
91	0.00	0.00	3470.29	0.00	2535.17
92	0.00	0.00	3470.29	0.00	2535.17
93	0.00	0.00	3470.29	0.00	2535.17
94	0.00	0.00	3470.29	0.00	2535.17
95	0.00	0.00	3470.29	0.00	2535.17
96	0.00	0.00	3470.29	0.00	2535.17
97	0.00	0.00	3470.29	0.00	2535.17
98	0.00	0.00	3470.29	0.00	2535.17
99	0.00	0.00	3470.29	0.00	2535.17
100	0.00	0.00	3470.29	0.00	2535.17
101	0.00	0.00	3470.29	0.00	2535.17
102	0.00	0.00	3470.29	0.00	2535.17
103	0.00	0.00	3470.29	0.00	2535.17
104	0.00	0.00	3470.29	0.00	2535.17
105	0.00	0.00	3470.29	0.00	2535.17
106	0.00	0.00	3470.29	0.00	2535.17
107	0.00	0.00	3470.29	0.00	2535.17
108	0.00	0.00	3470.29	0.00	2535.17
109	0.00	0.00	3470.29	0.00	2535.17
110	0.00	0.00	3470.29	0.00	2535.17
111	0.00	0.00	3470.29	0.00	2535.17
112	0.00	0.00	3470.29	0.00	2535.17
113	0.00	0.00	3470.29	0.00	2535.17
114	0.00	0.00	3470.29	0.00	2535.17
115	0.00	0.00	3470.29	0.00	2535.17
116	0.00	0.00	3470.29	0.00	2535.17
117	0.00	0.00	3470.29	0.00	2535.17
118	0.00	0.00	3470.29	0.00	2535.17
119	0.00	0.00	3470.29	0.00	2535.17
120	0.00	0.00	3470.29	0.00	2535.17
121	0.00	0.00	3470.29	0.00	2535.17
122	0.00	0.00	3470.29	0.00	2535.17

R854 WNL (CRI90 900mA 20D)

Zonal flux distribution table

Page12

Gamma [°]	Average I [cd]	Zonal Flux [lm]	Sum Flux [lm]	Effective Flux [lm]	Effective Sum [lm]
123	0.00	0.00	3470.29	0.00	2535.17
124	0.00	0.00	3470.29	0.00	2535.17
125	0.00	0.00	3470.29	0.00	2535.17
126	0.00	0.00	3470.29	0.00	2535.17
127	0.00	0.00	3470.29	0.00	2535.17
128	0.00	0.00	3470.29	0.00	2535.17
129	0.00	0.00	3470.29	0.00	2535.17
130	0.00	0.00	3470.29	0.00	2535.17
131	0.00	0.00	3470.29	0.00	2535.17
132	0.00	0.00	3470.29	0.00	2535.17
133	0.00	0.00	3470.29	0.00	2535.17
134	0.00	0.00	3470.29	0.00	2535.17
135	0.35	0.01	3470.30	0.00	2535.17
136	0.35	0.03	3470.33	0.00	2535.17
137	0.71	0.04	3470.37	0.00	2535.17
138	2.84	0.13	3470.50	0.00	2535.17
139	2.48	0.19	3470.69	0.00	2535.17
140	3.55	0.21	3470.91	0.00	2535.17
141	6.03	0.33	3471.24	0.00	2535.17
142	6.03	0.41	3471.66	0.00	2535.17
143	6.74	0.43	3472.08	0.00	2535.17
144	9.58	0.53	3472.61	0.00	2535.17
145	10.65	0.64	3473.26	0.00	2535.17
146	12.78	0.73	3473.99	0.00	2535.17
147	13.84	0.81	3474.79	0.00	2535.17
148	15.26	0.86	3475.65	0.00	2535.17
149	16.33	0.91	3476.56	0.00	2535.17
150	17.39	0.94	3477.49	0.00	2535.17
151	19.17	0.99	3478.48	0.00	2535.17
152	19.88	1.02	3479.50	0.00	2535.17
153	21.65	1.05	3480.55	0.00	2535.17
154	22.36	1.08	3481.63	0.00	2535.17
155	23.07	1.07	3482.70	0.00	2535.17
156	24.85	1.09	3483.79	0.00	2535.17
157	25.20	1.09	3484.89	0.00	2535.17
158	26.98	1.09	3485.98	0.00	2535.17
159	27.33	1.09	3487.07	0.00	2535.17
160	27.69	1.06	3488.13	0.00	2535.17
161	28.75	1.03	3489.16	0.00	2535.17
162	31.24	1.04	3490.21	0.00	2535.17
163	31.59	1.04	3491.24	0.00	2535.17

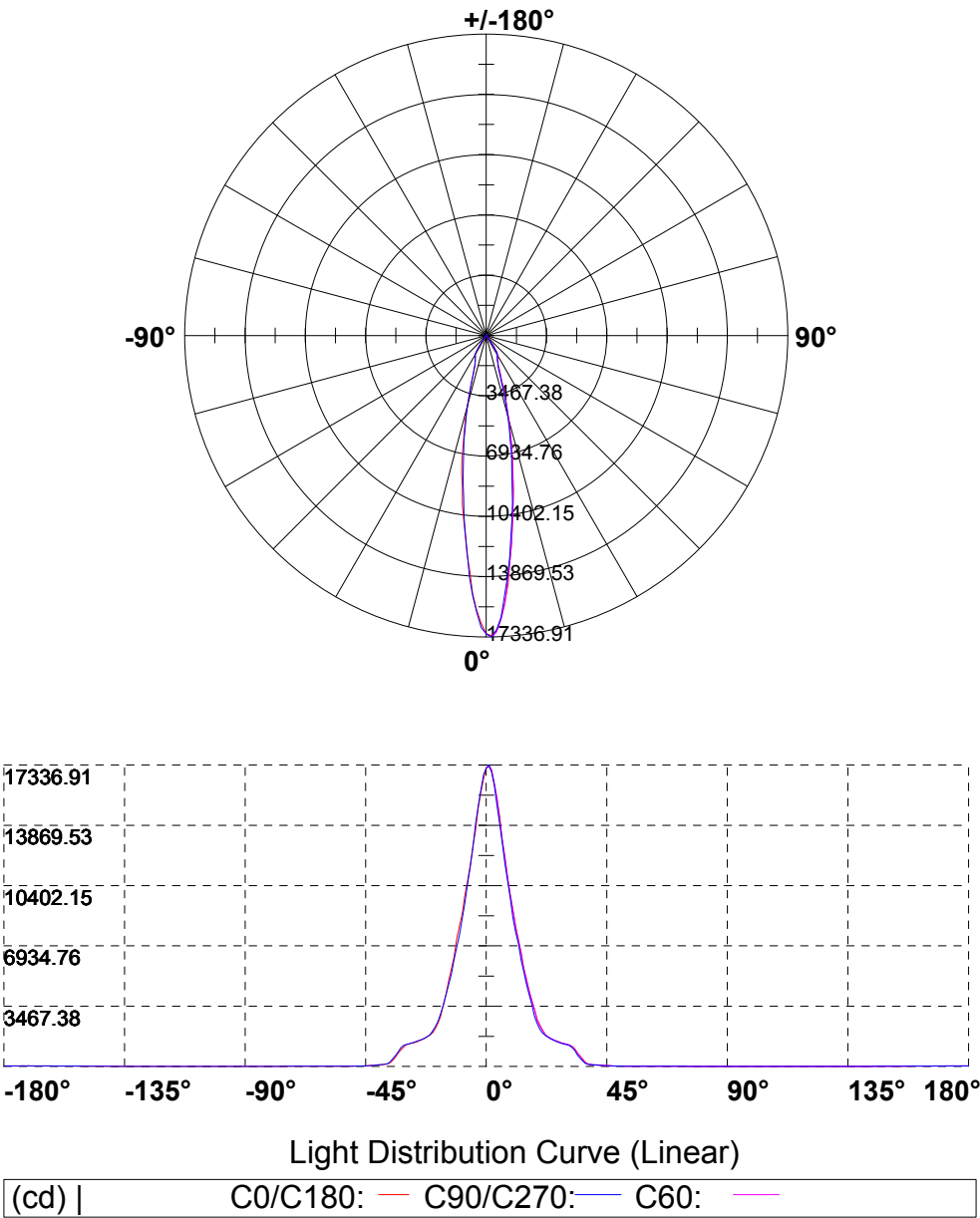
R854 WNL (CRI90 900mA 20D)

Zonal flux distribution table

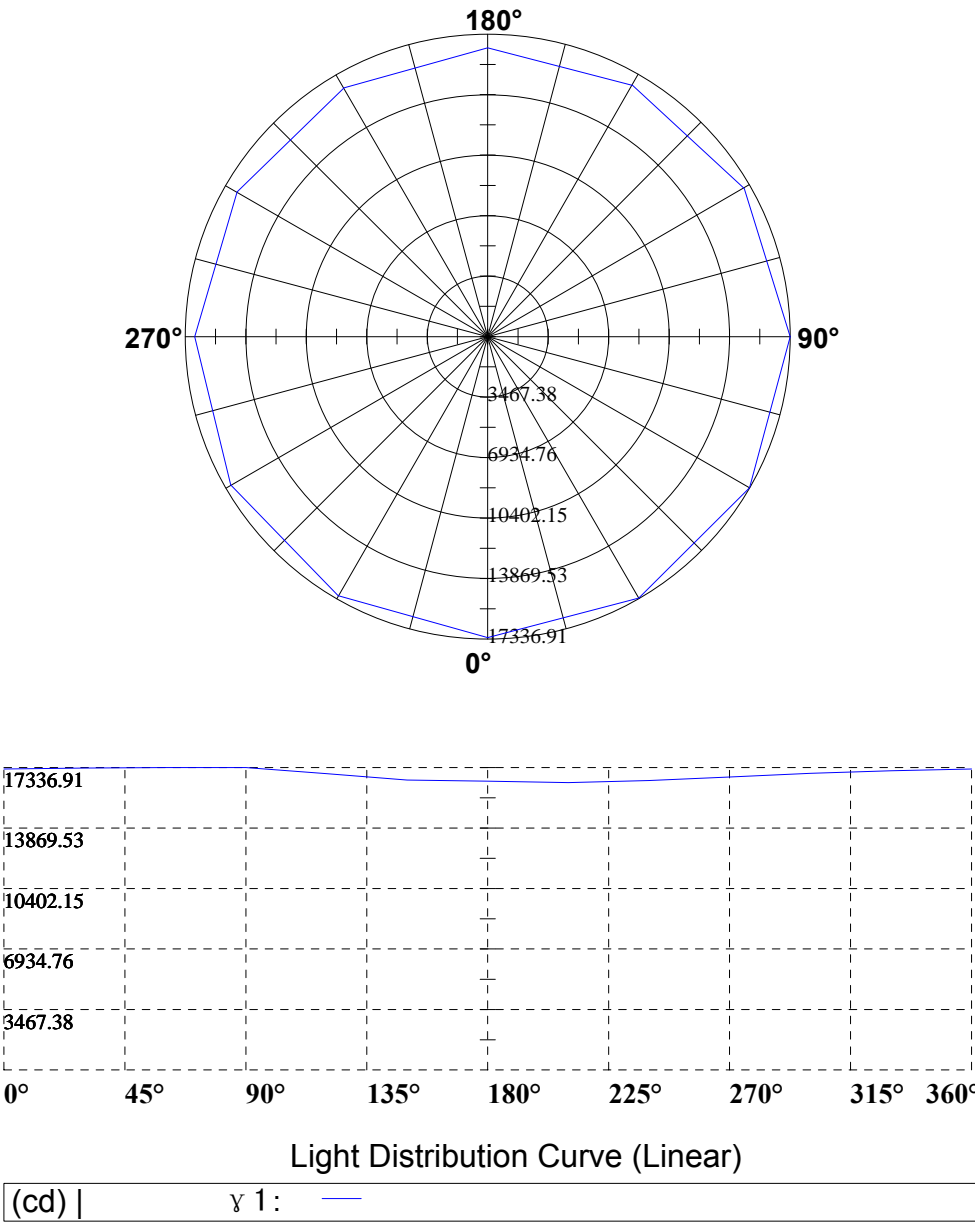
Page13

[illegible]

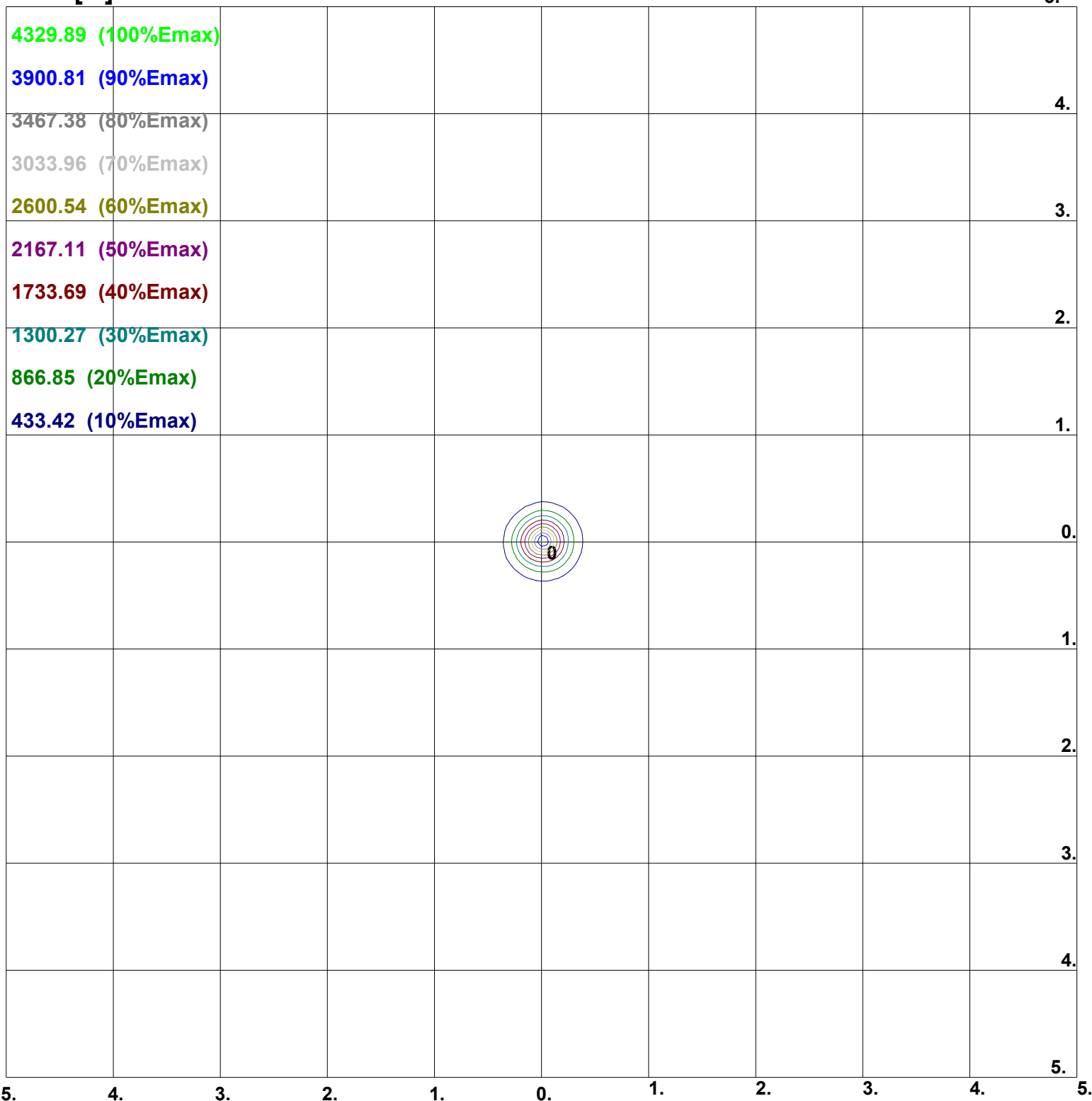
Light Distribution Curve [Unit: cd]



Horizontal cone through Max.cd [Unit: cd]



Unit: [lx]



Coordinate Scale: d/h

Height: 2 m

Max Illuminance : 4334.23lx

Luminance Limiting Curve (There is not luminous side)

Diameter: 140mm

Length: -140mm

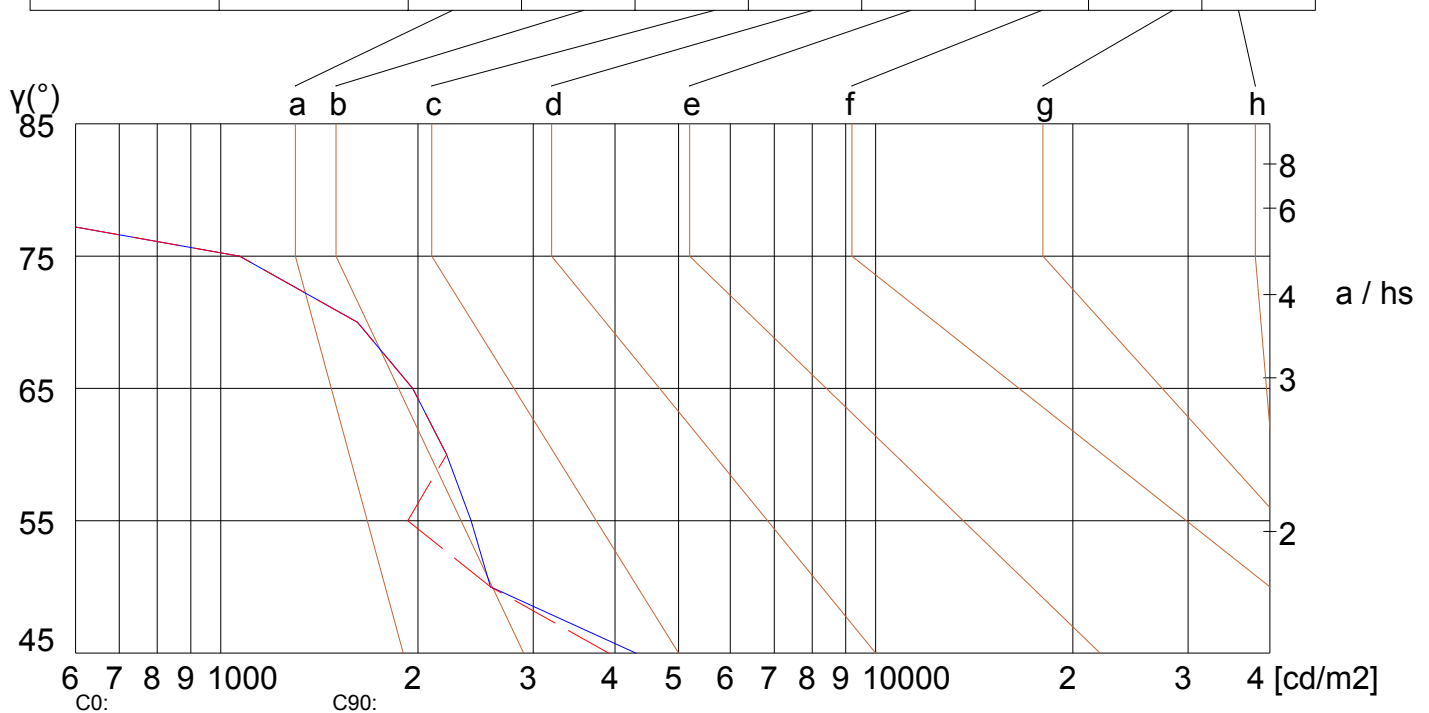
Width: -140mm

Height: 100mm

(cd/m²)

γ	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	3912	2582	1929	2213	1963	1617	1069		
C90	4303	2582	2411	2213	1963	1617	1069		

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 900mA 20D)

utilization factor table for indoor luminaire

Page18

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	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.04	1.03	1.03	1.02	1.02	1.01	0.98	0.97	0.97	0.93	0.92	0.91	0.87	0.86	0.85	0.80
2	1.00	0.99	0.98	0.98	0.97	0.96	0.94	0.93	0.92	0.90	0.88	0.87	0.84	0.82	0.81	0.77
3	0.95	0.95	0.94	0.94	0.93	0.92	0.91	0.89	0.88	0.86	0.85	0.83	0.81	0.79	0.78	0.74
4	0.92	0.91	0.90	0.90	0.89	0.88	0.87	0.85	0.84	0.83	0.81	0.79	0.79	0.77	0.74	0.71
5	0.88	0.87	0.87	0.87	0.85	0.85	0.84	0.82	0.80	0.80	0.78	0.76	0.77	0.74	0.72	0.68
6	0.85	0.84	0.83	0.84	0.82	0.81	0.81	0.79	0.77	0.78	0.75	0.73	0.74	0.71	0.69	0.66
7	0.82	0.81	0.80	0.81	0.79	0.78	0.78	0.76	0.75	0.75	0.73	0.71	0.72	0.69	0.67	0.63
8	0.79	0.78	0.78	0.78	0.77	0.76	0.76	0.73	0.72	0.73	0.70	0.68	0.70	0.67	0.64	0.61
9	0.77	0.76	0.75	0.76	0.74	0.73	0.73	0.71	0.70	0.71	0.68	0.66	0.68	0.65	0.62	0.59
10	0.74	0.73	0.73	0.73	0.72	0.71	0.71	0.69	0.67	0.68	0.66	0.64	0.66	0.63	0.60	0.57

