

R854 WNL (CRI90 1050mA 12D)

Luminaire Name: R854 WNL (CRI90 1050mA 12D)

Report NO.: 01313217031101A

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: 230.53 V

Current: 0.1862 A

Power: 41.52 W

Power Factor: 0.9673

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

Width: -140mm

Height: 100mm

Optical Component: 12D Reflector DC(V:36.09V I:1.015A P:38.21W)

Photometric Results

Lumens: 3952.40 lm

Efficiency: 88.58%

Central Intensity: 51341.63cd

Maximum Intensity: 51976.648cd

Beam Angle(10%): Left: -11.0 Right:10.6

Maximum s/h: C0_180: 0.11 C90_270: 0.11

Effective Luminous Flux: 2062.68 lm

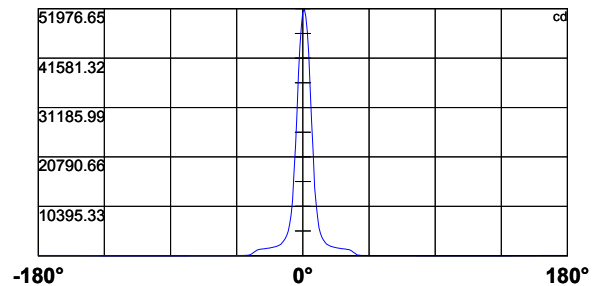
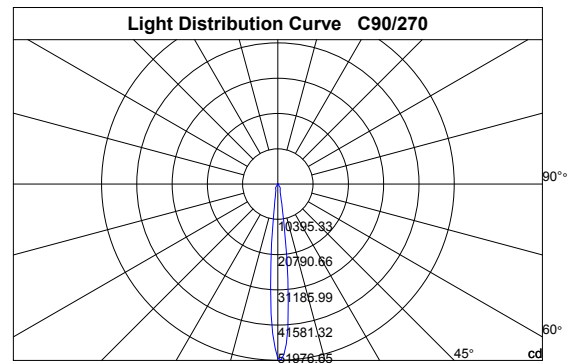
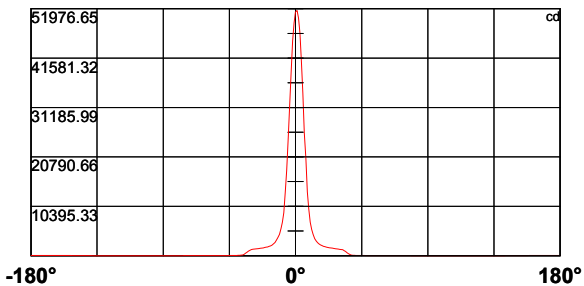
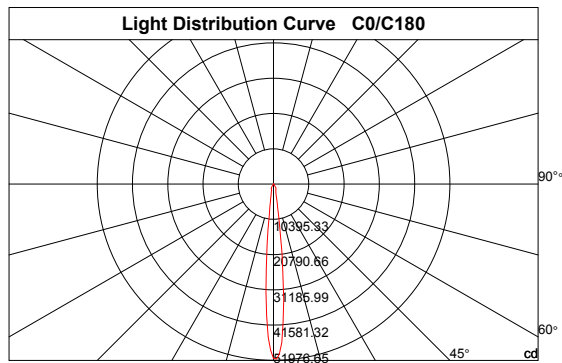
Angle of maximum intensity: C:60.0 G:1.0

Half Peak Side Angle(50%): Left: -5.6 Right:5.4

Up Flux Rate: 0.95%

Down Flux Rate: 87.63%

CIE Classification: Direct



R854 WNL (CRI90 1050mA 12D)

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 | 51341.6 | 51572.0 | 50017.2 | 46745.8 | 40790.7 | 34171.2 | 25826.5 | 20382.6 | 13430.8 | 9810.0 |
| 30.0 | 51341.6 | 51946.8 | 50349.4 | 47184.5 | 42447.7 | 35116.8 | 28058.5 | 21353.8 | 14793.9 | 10696.1 |
| 60.0 | 51341.6 | 51976.6 | 51133.2 | 47504.0 | 43027.1 | 35892.1 | 28872.1 | 22095.0 | 15390.2 | 11147.6 |
| 90.0 | 51341.6 | 51840.3 | 50268.5 | 47201.6 | 42520.2 | 35167.9 | 28173.5 | 21532.7 | 14291.2 | 11002.8 |
| 120.0 | 51341.6 | 50715.8 | 47026.9 | 42260.3 | 36011.4 | 27947.8 | 21439.0 | 14495.7 | 10832.4 | 8647.2 |
| 150.0 | 51341.6 | 49684.9 | 46358.1 | 40381.8 | 33804.9 | 26844.5 | 18550.9 | 13775.8 | 9805.8 | 7565.2 |
| 180.0 | 51341.6 | 48943.8 | 45148.4 | 38724.8 | 31926.3 | 25025.6 | 17980.1 | 13311.5 | 9060.3 | 7041.3 |
| 210.0 | 51341.6 | 48321.8 | 44160.1 | 38524.6 | 29327.9 | 22606.1 | 17733.1 | 11816.4 | 8834.6 | 6858.1 |
| 240.0 | 51341.6 | 48142.9 | 43844.9 | 38145.5 | 30098.9 | 23219.5 | 17332.7 | 11488.4 | 8540.7 | 6368.2 |
| 270.0 | 51341.6 | 48262.2 | 44049.4 | 38354.2 | 30290.6 | 23389.9 | 17498.8 | 11633.2 | 8625.9 | 6640.8 |
| 300.0 | 51341.6 | 51005.4 | 48113.1 | 43823.6 | 36854.8 | 29770.9 | 22883.0 | 16974.8 | 11134.8 | 8212.7 |
| 330.0 | 51341.6 | 51218.4 | 49126.9 | 45352.9 | 38818.5 | 31828.3 | 24770.1 | 17618.1 | 12889.8 | 8625.9 |
| 360.0 | 51341.6 | 51572.0 | 50017.2 | 46745.8 | 40790.7 | 34171.2 | 25826.5 | 20382.6 | 13430.8 | 9810.0 |

| C\γ | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 | 16.0 | 17.0 | 18.0 | 19.0 |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0 | 7075.3 | 5537.6 | 4494.0 | 3573.9 | 3101.0 | 2751.8 | 2453.6 | 2270.4 | 2125.6 | 1976.5 |
| 30.0 | 7267.0 | 5682.4 | 4587.7 | 3846.5 | 3177.7 | 2807.1 | 2572.8 | 2296.0 | 2138.4 | 2014.8 |
| 60.0 | 8289.3 | 5895.4 | 4749.5 | 3846.5 | 3318.3 | 2909.4 | 2564.3 | 2338.6 | 2172.4 | 2014.8 |
| 90.0 | 8246.7 | 5882.6 | 4741.0 | 3833.7 | 3284.2 | 2879.5 | 2496.2 | 2291.7 | 2134.1 | 1993.5 |
| 120.0 | 6287.3 | 5120.1 | 4268.2 | 3548.3 | 3088.3 | 2641.0 | 2393.9 | 2210.8 | 2070.2 | 1942.4 |
| 150.0 | 6006.2 | 4902.9 | 3889.1 | 3343.9 | 2930.7 | 2568.6 | 2338.6 | 2138.4 | 2010.6 | 1912.6 |
| 180.0 | 5644.1 | 4498.2 | 3808.2 | 3271.4 | 2756.0 | 2513.2 | 2223.6 | 2070.2 | 1955.2 | 1848.7 |
| 210.0 | 5324.6 | 4413.0 | 3556.8 | 3079.8 | 2721.9 | 2411.0 | 2210.8 | 2057.4 | 1925.4 | 1835.9 |
| 240.0 | 5154.2 | 4289.5 | 3480.2 | 3032.9 | 2739.0 | 2389.7 | 2198.0 | 2048.9 | 1925.4 | 1840.2 |
| 270.0 | 5158.5 | 4293.8 | 3578.1 | 3122.3 | 2764.5 | 2415.2 | 2227.8 | 2078.7 | 1950.9 | 1861.5 |
| 300.0 | 6014.7 | 4783.6 | 3944.5 | 3284.2 | 2883.8 | 2504.7 | 2313.0 | 2159.7 | 2044.6 | 1925.4 |
| 330.0 | 6585.5 | 5179.8 | 4229.9 | 3475.9 | 3024.4 | 2602.7 | 2381.2 | 2236.3 | 2070.2 | 1963.7 |
| 360.0 | 7075.3 | 5537.6 | 4494.0 | 3573.9 | 3101.0 | 2751.8 | 2453.6 | 2270.4 | 2125.6 | 1976.5 |

| C\γ | 20.0 | 21.0 | 22.0 | 23.0 | 24.0 | 25.0 | 26.0 | 27.0 | 28.0 | 29.0 |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0 | 1904.1 | 1823.1 | 1738.0 | 1678.3 | 1618.7 | 1576.1 | 1537.7 | 1469.6 | 1427.0 | 1397.2 |
| 30.0 | 1899.8 | 1818.9 | 1742.2 | 1669.8 | 1614.4 | 1563.3 | 1520.7 | 1469.6 | 1422.7 | 1388.7 |
| 60.0 | 1895.6 | 1814.6 | 1746.5 | 1665.5 | 1614.4 | 1559.0 | 1520.7 | 1469.6 | 1422.7 | 1388.7 |
| 90.0 | 1895.6 | 1818.9 | 1742.2 | 1678.3 | 1601.6 | 1563.3 | 1516.4 | 1461.1 | 1418.5 | 1380.1 |
| 120.0 | 1861.5 | 1789.1 | 1703.9 | 1648.5 | 1593.1 | 1550.5 | 1495.1 | 1452.6 | 1422.7 | 1380.1 |
| 150.0 | 1810.4 | 1750.7 | 1691.1 | 1631.5 | 1588.9 | 1550.5 | 1486.6 | 1456.8 | 1410.0 | 1371.6 |
| 180.0 | 1780.5 | 1720.9 | 1648.5 | 1601.6 | 1554.8 | 1516.4 | 1473.8 | 1431.3 | 1401.4 | 1363.1 |
| 210.0 | 1767.8 | 1691.1 | 1631.5 | 1580.3 | 1546.3 | 1507.9 | 1456.8 | 1427.0 | 1392.9 | 1346.1 |
| 240.0 | 1750.7 | 1691.1 | 1640.0 | 1584.6 | 1550.5 | 1516.4 | 1461.1 | 1427.0 | 1397.2 | 1350.3 |
| 270.0 | 1789.1 | 1716.7 | 1661.3 | 1597.4 | 1559.0 | 1525.0 | 1478.1 | 1435.5 | 1405.7 | 1358.8 |
| 300.0 | 1844.4 | 1767.8 | 1708.1 | 1648.5 | 1588.9 | 1550.5 | 1507.9 | 1456.8 | 1414.2 | 1371.6 |
| 330.0 | 1878.5 | 1797.6 | 1733.7 | 1657.0 | 1610.2 | 1571.8 | 1525.0 | 1478.1 | 1431.3 | 1388.7 |
| 360.0 | 1904.1 | 1823.1 | 1738.0 | 1678.3 | 1618.7 | 1576.1 | 1537.7 | 1469.6 | 1427.0 | 1397.2 |

R854 WNL (CRI90 1050mA 12D)

Intensity Data [cd]

Page3

| C\γ | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|------|
| 0.0 | 1350.3 | 1316.2 | 1248.1 | 1069.2 | 877.5 | 609.1 | 408.9 | 234.3 | 110.8 | 80.9 |
| 30.0 | 1354.6 | 1312.0 | 1231.0 | 1082.0 | 856.2 | 651.7 | 421.7 | 251.3 | 132.1 | 80.9 |
| 60.0 | 1350.3 | 1303.5 | 1218.3 | 1056.4 | 830.6 | 626.2 | 434.5 | 230.0 | 123.5 | 80.9 |
| 90.0 | 1341.8 | 1294.9 | 1197.0 | 1026.6 | 792.3 | 579.3 | 379.1 | 170.4 | 98.0 | 76.7 |
| 120.0 | 1316.2 | 1209.8 | 1043.6 | 796.6 | 575.1 | 311.0 | 178.9 | 115.0 | 85.2 | 68.2 |
| 150.0 | 1320.5 | 1179.9 | 996.8 | 783.8 | 494.1 | 311.0 | 174.6 | 102.2 | 85.2 | 68.2 |
| 180.0 | 1286.4 | 1145.9 | 958.4 | 719.9 | 515.4 | 298.2 | 166.1 | 106.5 | 76.7 | 63.9 |
| 210.0 | 1286.4 | 1133.1 | 949.9 | 741.2 | 472.8 | 323.7 | 187.4 | 98.0 | 80.9 | 63.9 |
| 240.0 | 1303.5 | 1154.4 | 971.2 | 766.7 | 528.2 | 340.8 | 191.7 | 98.0 | 80.9 | 68.2 |
| 270.0 | 1316.2 | 1188.5 | 1013.8 | 805.1 | 558.0 | 362.1 | 200.2 | 102.2 | 85.2 | 72.4 |
| 300.0 | 1341.8 | 1307.7 | 1184.2 | 1018.1 | 809.3 | 553.8 | 328.0 | 187.4 | 98.0 | 76.7 |
| 330.0 | 1350.3 | 1303.5 | 1209.8 | 1047.9 | 813.6 | 600.6 | 400.4 | 200.2 | 110.8 | 80.9 |
| 360.0 | 1350.3 | 1316.2 | 1248.1 | 1069.2 | 877.5 | 609.1 | 408.9 | 234.3 | 110.8 | 80.9 |

| C\γ | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 |
|-------|------|------|------|------|------|------|------|------|------|------|
| 0.0 | 63.9 | 55.4 | 46.9 | 42.6 | 38.3 | 38.3 | 34.1 | 34.1 | 29.8 | 25.6 |
| 30.0 | 68.2 | 59.6 | 51.1 | 46.9 | 42.6 | 42.6 | 38.3 | 34.1 | 29.8 | 29.8 |
| 60.0 | 63.9 | 55.4 | 51.1 | 46.9 | 42.6 | 42.6 | 38.3 | 34.1 | 29.8 | 29.8 |
| 90.0 | 59.6 | 51.1 | 46.9 | 42.6 | 42.6 | 38.3 | 38.3 | 29.8 | 29.8 | 29.8 |
| 120.0 | 59.6 | 51.1 | 46.9 | 42.6 | 38.3 | 34.1 | 29.8 | 25.6 | 25.6 | 25.6 |
| 150.0 | 59.6 | 51.1 | 42.6 | 38.3 | 38.3 | 34.1 | 29.8 | 29.8 | 25.6 | 25.6 |
| 180.0 | 59.6 | 51.1 | 42.6 | 38.3 | 38.3 | 34.1 | 29.8 | 25.6 | 25.6 | 25.6 |
| 210.0 | 55.4 | 51.1 | 42.6 | 38.3 | 38.3 | 34.1 | 29.8 | 29.8 | 29.8 | 25.6 |
| 240.0 | 55.4 | 51.1 | 46.9 | 42.6 | 38.3 | 34.1 | 29.8 | 29.8 | 29.8 | 25.6 |
| 270.0 | 59.6 | 55.4 | 46.9 | 42.6 | 42.6 | 34.1 | 34.1 | 29.8 | 29.8 | 29.8 |
| 300.0 | 59.6 | 55.4 | 46.9 | 42.6 | 38.3 | 38.3 | 34.1 | 29.8 | 29.8 | 25.6 |
| 330.0 | 63.9 | 55.4 | 51.1 | 42.6 | 38.3 | 38.3 | 34.1 | 34.1 | 29.8 | 25.6 |
| 360.0 | 63.9 | 55.4 | 46.9 | 42.6 | 38.3 | 38.3 | 34.1 | 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 | 25.6 | 25.6 | 25.6 | 21.3 | 25.6 | 25.6 | 25.6 | 25.6 |
| 30.0 | 29.8 | 25.6 | 25.6 | 25.6 | 25.6 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 |
| 60.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 21.3 | 21.3 | 25.6 | 25.6 |
| 90.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 21.3 | 21.3 | 21.3 | 25.6 |
| 120.0 | 25.6 | 25.6 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 |
| 150.0 | 25.6 | 21.3 | 21.3 | 21.3 | 25.6 | 21.3 | 21.3 | 21.3 | 21.3 | 25.6 |
| 180.0 | 25.6 | 25.6 | 25.6 | 21.3 | 25.6 | 21.3 | 25.6 | 21.3 | 25.6 | 25.6 |
| 210.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 29.8 | 25.6 | 25.6 | 29.8 |
| 240.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 29.8 | 34.1 |
| 270.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 29.8 | 29.8 | 29.8 |
| 300.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 |
| 330.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 |
| 360.0 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 21.3 | 25.6 | 25.6 | 25.6 | 25.6 |

R854 WNL (CRI90 1050mA 12D)

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 | 25.6 | 29.8 | 29.8 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 |
| 30.0 | 25.6 | 29.8 | 29.8 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 |
| 60.0 | 29.8 | 29.8 | 29.8 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 12.8 |
| 90.0 | 25.6 | 25.6 | 25.6 | 25.6 | 21.3 | 17.0 | 17.0 | 17.0 | 12.8 | 12.8 |
| 120.0 | 25.6 | 29.8 | 25.6 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 | 12.8 | 12.8 |
| 150.0 | 25.6 | 25.6 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 12.8 | 12.8 |
| 180.0 | 29.8 | 25.6 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 12.8 | 17.0 | 12.8 |
| 210.0 | 29.8 | 25.6 | 25.6 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 12.8 |
| 240.0 | 34.1 | 29.8 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 | 12.8 |
| 270.0 | 29.8 | 29.8 | 25.6 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 12.8 |
| 300.0 | 29.8 | 29.8 | 29.8 | 25.6 | 21.3 | 21.3 | 21.3 | 21.3 | 17.0 | 17.0 |
| 330.0 | 29.8 | 25.6 | 29.8 | 25.6 | 25.6 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 |
| 360.0 | 25.6 | 29.8 | 29.8 | 25.6 | 21.3 | 21.3 | 17.0 | 17.0 | 17.0 | 17.0 |

| C\γ | 70.0 | 71.0 | 72.0 | 73.0 | 74.0 | 75.0 | 76.0 | 77.0 | 78.0 | 79.0 |
|-------|------|------|------|------|------|------|------|------|------|------|
| 0.0 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 4.3 |
| 30.0 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 4.3 | 4.3 |
| 60.0 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 8.5 | 4.3 |
| 90.0 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 4.3 | 4.3 |
| 120.0 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 8.5 | 4.3 | 4.3 | 4.3 |
| 150.0 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 8.5 | 4.3 | 4.3 | 4.3 |
| 180.0 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 8.5 | 4.3 | 4.3 | 4.3 |
| 210.0 | 12.8 | 12.8 | 12.8 | 8.5 | 12.8 | 8.5 | 8.5 | 4.3 | 4.3 | 4.3 |
| 240.0 | 17.0 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 4.3 | 4.3 | 4.3 |
| 270.0 | 12.8 | 17.0 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 4.3 | 4.3 |
| 300.0 | 17.0 | 17.0 | 12.8 | 12.8 | 12.8 | 8.5 | 12.8 | 8.5 | 4.3 | 4.3 |
| 330.0 | 17.0 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 4.3 | 4.3 |
| 360.0 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 8.5 | 8.5 | 8.5 | 4.3 |

| 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 | 4.3 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 4.3 | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 4.3 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 0.0 | 4.3 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 210.0 | 4.3 | 4.3 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 240.0 | 4.3 | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 270.0 | 4.3 | 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 | 4.3 | 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 12D)

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 1050mA 12D)**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 | 0.0 | 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 | 4.3 |
| 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 4.3 | 4.3 | 4.3 |
| 60.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 4.3 | 4.3 | 0.0 | 4.3 |
| 90.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 4.3 | 0.0 | 0.0 |
| 120.0 | 0.0 | 4.3 | 0.0 | 0.0 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 150.0 | 0.0 | 0.0 | 0.0 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 180.0 | 0.0 | 4.3 | 0.0 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 8.5 |
| 210.0 | 0.0 | 4.3 | 0.0 | 0.0 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 8.5 |
| 240.0 | 0.0 | 0.0 | 4.3 | 4.3 | 4.3 | 0.0 | 4.3 | 4.3 | 4.3 | 8.5 |
| 270.0 | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 4.3 | 4.3 | 4.3 | 4.3 | 8.5 |
| 300.0 | 0.0 | 4.3 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 4.3 | 4.3 | 4.3 |
| 330.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 4.3 | 4.3 | 4.3 |
| 360.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.3 | 4.3 |

| 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 | 8.5 | 8.5 | 8.5 | 12.8 | 12.8 | 17.0 | 17.0 |
| 30.0 | 0.0 | 4.3 | 4.3 | 8.5 | 8.5 | 8.5 | 12.8 | 12.8 | 17.0 | 17.0 |
| 60.0 | 4.3 | 4.3 | 4.3 | 8.5 | 8.5 | 8.5 | 8.5 | 12.8 | 17.0 | 17.0 |
| 90.0 | 4.3 | 4.3 | 4.3 | 8.5 | 8.5 | 8.5 | 12.8 | 12.8 | 17.0 | 17.0 |
| 120.0 | 8.5 | 8.5 | 12.8 | 12.8 | 17.0 | 17.0 | 21.3 | 25.6 | 25.6 | 25.6 |
| 150.0 | 8.5 | 8.5 | 12.8 | 12.8 | 17.0 | 21.3 | 21.3 | 25.6 | 29.8 | 29.8 |
| 180.0 | 8.5 | 8.5 | 12.8 | 17.0 | 17.0 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 |
| 210.0 | 8.5 | 8.5 | 12.8 | 17.0 | 17.0 | 21.3 | 25.6 | 25.6 | 29.8 | 29.8 |
| 240.0 | 4.3 | 8.5 | 12.8 | 17.0 | 17.0 | 21.3 | 21.3 | 25.6 | 29.8 | 25.6 |
| 270.0 | 8.5 | 8.5 | 12.8 | 12.8 | 17.0 | 21.3 | 25.6 | 25.6 | 25.6 | 29.8 |
| 300.0 | 4.3 | 4.3 | 4.3 | 8.5 | 8.5 | 12.8 | 12.8 | 12.8 | 17.0 | 21.3 |
| 330.0 | 4.3 | 4.3 | 8.5 | 8.5 | 8.5 | 8.5 | 12.8 | 17.0 | 17.0 | 17.0 |
| 360.0 | 4.3 | 4.3 | 4.3 | 8.5 | 8.5 | 8.5 | 12.8 | 12.8 | 17.0 | 17.0 |

R854 WNL (CRI90 1050mA 12D)**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 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 | 25.6 | 29.8 | 29.8 | 29.8 | 34.1 |
| 30.0 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 | 25.6 | 25.6 | 29.8 | 29.8 | 34.1 |
| 60.0 | 21.3 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 | 29.8 | 29.8 | 29.8 | 34.1 |
| 90.0 | 17.0 | 25.6 | 21.3 | 25.6 | 25.6 | 29.8 | 25.6 | 29.8 | 29.8 | 34.1 |
| 120.0 | 29.8 | 29.8 | 29.8 | 34.1 | 34.1 | 38.3 | 34.1 | 38.3 | 38.3 | 38.3 |
| 150.0 | 29.8 | 29.8 | 34.1 | 34.1 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 38.3 |
| 180.0 | 29.8 | 29.8 | 29.8 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 38.3 | 38.3 |
| 210.0 | 29.8 | 29.8 | 29.8 | 34.1 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 42.6 |
| 240.0 | 29.8 | 29.8 | 34.1 | 34.1 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 42.6 |
| 270.0 | 29.8 | 34.1 | 34.1 | 34.1 | 34.1 | 38.3 | 34.1 | 38.3 | 38.3 | 42.6 |
| 300.0 | 21.3 | 21.3 | 21.3 | 25.6 | 25.6 | 29.8 | 25.6 | 29.8 | 29.8 | 29.8 |
| 330.0 | 21.3 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 | 29.8 | 29.8 | 29.8 | 34.1 |
| 360.0 | 21.3 | 21.3 | 25.6 | 25.6 | 25.6 | 25.6 | 29.8 | 29.8 | 29.8 | 34.1 |

| C\γ | 160.0 | 161.0 | 162.0 | 163.0 | 164.0 | 165.0 | 166.0 | 167.0 | 168.0 | 169.0 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 34.1 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 38.3 | 42.6 | 42.6 | 42.6 |
| 30.0 | 34.1 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 42.6 | 42.6 | 42.6 | 42.6 |
| 60.0 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 38.3 | 38.3 | 42.6 | 42.6 | 42.6 |
| 90.0 | 29.8 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 42.6 | 42.6 | 42.6 | 42.6 |
| 120.0 | 42.6 | 42.6 | 42.6 | 46.9 | 46.9 | 46.9 | 46.9 | 51.1 | 51.1 | 51.1 |
| 150.0 | 42.6 | 42.6 | 42.6 | 46.9 | 46.9 | 46.9 | 46.9 | 51.1 | 51.1 | 51.1 |
| 180.0 | 42.6 | 42.6 | 42.6 | 42.6 | 46.9 | 46.9 | 51.1 | 51.1 | 51.1 | 51.1 |
| 210.0 | 42.6 | 42.6 | 46.9 | 46.9 | 46.9 | 46.9 | 51.1 | 51.1 | 51.1 | 51.1 |
| 240.0 | 42.6 | 42.6 | 42.6 | 42.6 | 46.9 | 46.9 | 51.1 | 51.1 | 51.1 | 51.1 |
| 270.0 | 42.6 | 42.6 | 42.6 | 46.9 | 46.9 | 46.9 | 51.1 | 51.1 | 51.1 | 51.1 |
| 300.0 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 42.6 | 42.6 | 42.6 | 42.6 | 46.9 |
| 330.0 | 34.1 | 34.1 | 34.1 | 38.3 | 38.3 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 |
| 360.0 | 34.1 | 34.1 | 34.1 | 38.3 | 38.3 | 38.3 | 38.3 | 42.6 | 42.6 | 42.6 |

| C\γ | 170.0 | 171.0 | 172.0 | 173.0 | 174.0 | 175.0 | 176.0 | 177.0 | 178.0 | 179.0 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 42.6 | 46.9 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 38.3 | 42.6 | 42.6 |
| 30.0 | 42.6 | 46.9 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 |
| 60.0 | 46.9 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 |
| 90.0 | 46.9 | 42.6 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 | 42.6 |
| 120.0 | 51.1 | 51.1 | 51.1 | 51.1 | 51.1 | 46.9 | 42.6 | 42.6 | 42.6 | 38.3 |
| 150.0 | 55.4 | 51.1 | 51.1 | 51.1 | 46.9 | 46.9 | 42.6 | 42.6 | 38.3 | 42.6 |
| 180.0 | 51.1 | 51.1 | 51.1 | 51.1 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 38.3 |
| 210.0 | 51.1 | 51.1 | 51.1 | 51.1 | 46.9 | 46.9 | 42.6 | 42.6 | 38.3 | 42.6 |
| 240.0 | 51.1 | 51.1 | 51.1 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 38.3 | 38.3 |
| 270.0 | 51.1 | 51.1 | 51.1 | 46.9 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 42.6 |
| 300.0 | 46.9 | 42.6 | 46.9 | 46.9 | 42.6 | 42.6 | 38.3 | 38.3 | 38.3 | 38.3 |
| 330.0 | 42.6 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 42.6 | 38.3 | 42.6 | 38.3 |
| 360.0 | 42.6 | 46.9 | 46.9 | 46.9 | 42.6 | 42.6 | 42.6 | 38.3 | 42.6 | 42.6 |

Intensity Data [cd]

Page8

| | |
|-------|-------|
| C\γ | 180.0 |
| 0.0 | 42.6 |
| 30.0 | 42.6 |
| 60.0 | 42.6 |
| 90.0 | 42.6 |
| 120.0 | 38.3 |
| 150.0 | 42.6 |
| 180.0 | 42.6 |
| 210.0 | 42.6 |
| 240.0 | 42.6 |
| 270.0 | 42.6 |
| 300.0 | 38.3 |
| 330.0 | 42.6 |
| 360.0 | 42.6 |

R854 WNL (CRI90 1050mA 12D)

Zonal flux distribution table

Page9

| Gamma [°] | Average I [cd] | Zonal Flux [lm] | Sum Flux [lm] | Effective Flux [lm] | Effective Sum [lm] |
|--------------|-------------------|--------------------|------------------|------------------------|-----------------------|
| 0 | 51341.63 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 50302.60 | 48.64 | 48.64 | 48.64 | 48.64 |
| 2 | 47466.36 | 140.33 | 188.96 | 140.33 | 188.96 |
| 3 | 42850.29 | 216.01 | 404.97 | 216.01 | 404.97 |
| 4 | 36326.57 | 265.03 | 670.00 | 265.03 | 670.00 |
| 5 | 29248.40 | 282.10 | 952.10 | 282.10 | 952.10 |
| 6 | 22426.52 | 271.57 | 1223.67 | 271.57 | 1223.67 |
| 7 | 16373.16 | 240.83 | 1464.50 | 240.83 | 1464.50 |
| 8 | 11469.20 | 199.26 | 1663.76 | 199.26 | 1663.76 |
| 9 | 8551.31 | 162.26 | 1826.01 | 162.26 | 1826.01 |
| 10 | 6421.12 | 135.50 | 1961.51 | 135.50 | 1961.51 |
| 11 | 5039.92 | 114.52 | 2076.03 | 81.96 | 2043.47 |
| 12 | 4110.59 | 100.03 | 2176.06 | 19.21 | 2062.68 |
| 13 | 3438.27 | 89.59 | 2265.64 | 0.00 | 2062.68 |
| 14 | 2982.49 | 82.19 | 2347.83 | 0.00 | 2062.68 |
| 15 | 2616.16 | 76.86 | 2424.69 | 0.00 | 2062.68 |
| 16 | 2364.48 | 72.98 | 2497.67 | 0.00 | 2062.68 |
| 17 | 2183.09 | 70.82 | 2568.49 | 0.00 | 2062.68 |
| 18 | 2043.58 | 69.69 | 2638.17 | 0.00 | 2062.68 |
| 19 | 1927.51 | 69.09 | 2707.26 | 0.00 | 2062.68 |
| 20 | 1839.83 | 68.95 | 2776.22 | 0.00 | 2062.68 |
| 21 | 1766.70 | 69.25 | 2845.47 | 0.00 | 2062.68 |
| 22 | 1698.90 | 69.64 | 2915.11 | 0.00 | 2062.68 |
| 23 | 1636.78 | 69.99 | 2985.10 | 0.00 | 2062.68 |
| 24 | 1586.73 | 70.48 | 3055.58 | 0.00 | 2062.68 |
| 25 | 1545.91 | 71.23 | 3126.81 | 0.00 | 2062.68 |
| 26 | 1498.34 | 71.86 | 3198.67 | 0.00 | 2062.68 |
| 27 | 1452.91 | 72.20 | 3270.87 | 0.00 | 2062.68 |
| 28 | 1413.86 | 72.58 | 3343.45 | 0.00 | 2062.68 |
| 29 | 1373.75 | 72.93 | 3416.39 | 0.00 | 2062.68 |
| 30 | 1326.54 | 72.91 | 3489.29 | 0.00 | 2062.68 |
| 31 | 1237.44 | 71.35 | 3560.64 | 0.00 | 2062.68 |
| 32 | 1101.84 | 67.02 | 3627.66 | 0.00 | 2062.68 |
| 33 | 909.44 | 59.25 | 3686.91 | 0.00 | 2062.68 |
| 34 | 676.93 | 48.01 | 3734.92 | 0.00 | 2062.68 |
| 35 | 463.95 | 35.43 | 3770.35 | 0.00 | 2062.68 |
| 36 | 289.30 | 23.98 | 3794.34 | 0.00 | 2062.68 |
| 37 | 157.96 | 14.59 | 3808.93 | 0.00 | 2062.68 |
| 38 | 97.26 | 8.52 | 3817.44 | 0.00 | 2062.68 |
| 39 | 73.48 | 5.83 | 3823.27 | 0.00 | 2062.68 |
| 40 | 60.70 | 4.68 | 3827.95 | 0.00 | 2062.68 |

R854 WNL (CRI90 1050mA 12D)

Zonal flux distribution table

Page10

| Gamma [°] | Average I [cd] | Zonal Flux [lm] | Sum Flux [lm] | Effective Flux [lm] | Effective Sum [lm] |
|--------------|-------------------|--------------------|------------------|------------------------|-----------------------|
| 41 | 53.60 | 4.07 | 3832.02 | 0.00 | 2062.68 |
| 42 | 46.86 | 3.65 | 3835.67 | 0.00 | 2062.68 |
| 43 | 42.24 | 3.30 | 3838.97 | 0.00 | 2062.68 |
| 44 | 39.76 | 3.09 | 3842.07 | 0.00 | 2062.68 |
| 45 | 36.92 | 2.95 | 3845.01 | 0.00 | 2062.68 |
| 46 | 33.37 | 2.75 | 3847.76 | 0.00 | 2062.68 |
| 47 | 30.53 | 2.54 | 3850.30 | 0.00 | 2062.68 |
| 48 | 28.75 | 2.40 | 3852.70 | 0.00 | 2062.68 |
| 49 | 26.98 | 2.29 | 3854.99 | 0.00 | 2062.68 |
| 50 | 25.91 | 2.21 | 3857.19 | 0.00 | 2062.68 |
| 51 | 25.20 | 2.16 | 3859.35 | 0.00 | 2062.68 |
| 52 | 24.85 | 2.15 | 3861.50 | 0.00 | 2062.68 |
| 53 | 24.49 | 2.15 | 3863.65 | 0.00 | 2062.68 |
| 54 | 25.20 | 2.19 | 3865.84 | 0.00 | 2062.68 |
| 55 | 23.78 | 2.19 | 3868.03 | 0.00 | 2062.68 |
| 56 | 24.14 | 2.17 | 3870.19 | 0.00 | 2062.68 |
| 57 | 24.49 | 2.22 | 3872.42 | 0.00 | 2062.68 |
| 58 | 25.56 | 2.31 | 3874.73 | 0.00 | 2062.68 |
| 59 | 26.98 | 2.46 | 3877.19 | 0.00 | 2062.68 |
| 60 | 28.40 | 2.62 | 3879.80 | 0.00 | 2062.68 |
| 61 | 28.04 | 2.69 | 3882.50 | 0.00 | 2062.68 |
| 62 | 27.33 | 2.67 | 3885.17 | 0.00 | 2062.68 |
| 63 | 23.78 | 2.49 | 3887.65 | 0.00 | 2062.68 |
| 64 | 20.94 | 2.19 | 3889.85 | 0.00 | 2062.68 |
| 65 | 19.17 | 1.99 | 3891.83 | 0.00 | 2062.68 |
| 66 | 17.39 | 1.82 | 3893.66 | 0.00 | 2062.68 |
| 67 | 17.04 | 1.73 | 3895.39 | 0.00 | 2062.68 |
| 68 | 15.97 | 1.67 | 3897.06 | 0.00 | 2062.68 |
| 69 | 14.20 | 1.54 | 3898.60 | 0.00 | 2062.68 |
| 70 | 13.84 | 1.44 | 3900.04 | 0.00 | 2062.68 |
| 71 | 13.49 | 1.41 | 3901.45 | 0.00 | 2062.68 |
| 72 | 12.78 | 1.37 | 3902.82 | 0.00 | 2062.68 |
| 73 | 11.36 | 1.26 | 3904.08 | 0.00 | 2062.68 |
| 74 | 11.36 | 1.19 | 3905.27 | 0.00 | 2062.68 |
| 75 | 9.58 | 1.11 | 3906.38 | 0.00 | 2062.68 |
| 76 | 8.87 | 0.98 | 3907.36 | 0.00 | 2062.68 |
| 77 | 6.74 | 0.83 | 3908.19 | 0.00 | 2062.68 |
| 78 | 4.97 | 0.63 | 3908.82 | 0.00 | 2062.68 |
| 79 | 4.26 | 0.50 | 3909.32 | 0.00 | 2062.68 |
| 80 | 1.77 | 0.33 | 3909.64 | 0.00 | 2062.68 |
| 81 | 2.13 | 0.21 | 3909.85 | 0.00 | 2062.68 |

R854 WNL (CRI90 1050mA 12D)

Zonal flux distribution table

Page11

| Gamma [°] | Average I [cd] | Zonal Flux [lm] | Sum Flux [lm] | Effective Flux [lm] | Effective Sum [lm] |
|--------------|-------------------|--------------------|------------------|------------------------|-----------------------|
| 82 | 1.77 | 0.21 | 3910.06 | 0.00 | 2062.68 |
| 83 | 0.35 | 0.12 | 3910.18 | 0.00 | 2062.68 |
| 84 | 0.00 | 0.02 | 3910.20 | 0.00 | 2062.68 |
| 85 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 86 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 87 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 88 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 89 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 90 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 91 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 92 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 93 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 94 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 95 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 96 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 97 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 98 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 99 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 100 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 101 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 102 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 103 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 104 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 105 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 106 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 107 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 108 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 109 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 110 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 111 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 112 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 113 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 114 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 115 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 116 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 117 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 118 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 119 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 120 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 121 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 122 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |

R854 WNL (CRI90 1050mA 12D)

Zonal flux distribution table

Page12

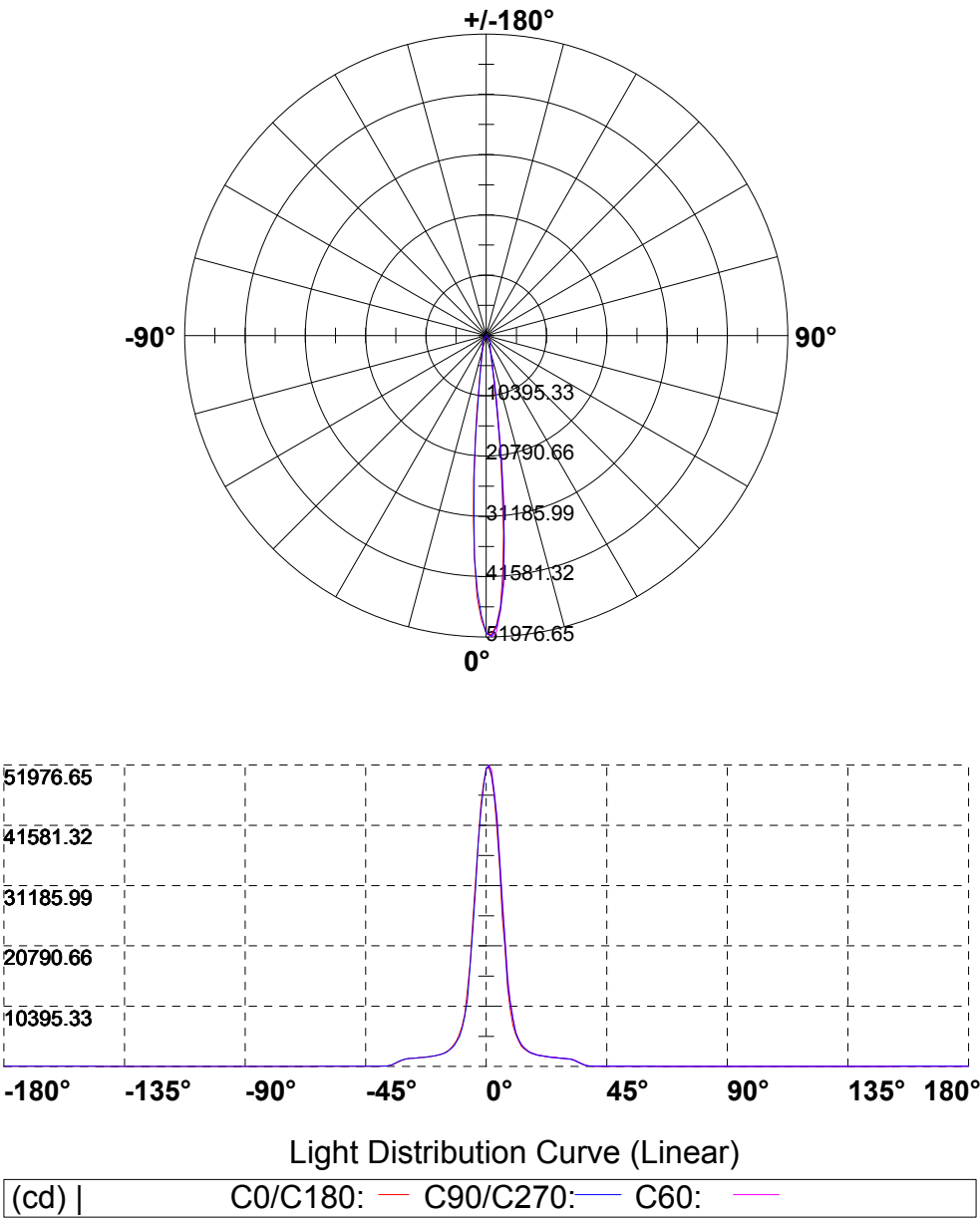
| Gamma [°] | Average I [cd] | Zonal Flux [lm] | Sum Flux [lm] | Effective Flux [lm] | Effective Sum [lm] |
|--------------|-------------------|--------------------|------------------|------------------------|-----------------------|
| 123 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 124 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 125 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 126 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 127 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 128 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 129 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 130 | 0.00 | 0.00 | 3910.20 | 0.00 | 2062.68 |
| 131 | 1.42 | 0.06 | 3910.26 | 0.00 | 2062.68 |
| 132 | 0.35 | 0.07 | 3910.33 | 0.00 | 2062.68 |
| 133 | 1.42 | 0.07 | 3910.40 | 0.00 | 2062.68 |
| 134 | 2.84 | 0.17 | 3910.57 | 0.00 | 2062.68 |
| 135 | 2.13 | 0.19 | 3910.77 | 0.00 | 2062.68 |
| 136 | 2.84 | 0.19 | 3910.96 | 0.00 | 2062.68 |
| 137 | 3.90 | 0.25 | 3911.21 | 0.00 | 2062.68 |
| 138 | 3.55 | 0.28 | 3911.49 | 0.00 | 2062.68 |
| 139 | 5.32 | 0.32 | 3911.81 | 0.00 | 2062.68 |
| 140 | 5.68 | 0.39 | 3912.21 | 0.00 | 2062.68 |
| 141 | 6.39 | 0.42 | 3912.63 | 0.00 | 2062.68 |
| 142 | 8.87 | 0.52 | 3913.15 | 0.00 | 2062.68 |
| 143 | 11.71 | 0.69 | 3913.83 | 0.00 | 2062.68 |
| 144 | 12.78 | 0.80 | 3914.63 | 0.00 | 2062.68 |
| 145 | 14.91 | 0.88 | 3915.51 | 0.00 | 2062.68 |
| 146 | 17.39 | 1.00 | 3916.52 | 0.00 | 2062.68 |
| 147 | 19.52 | 1.12 | 3917.64 | 0.00 | 2062.68 |
| 148 | 22.36 | 1.23 | 3918.87 | 0.00 | 2062.68 |
| 149 | 22.72 | 1.29 | 3920.16 | 0.00 | 2062.68 |
| 150 | 25.20 | 1.33 | 3921.49 | 0.00 | 2062.68 |
| 151 | 26.27 | 1.39 | 3922.88 | 0.00 | 2062.68 |
| 152 | 27.33 | 1.40 | 3924.29 | 0.00 | 2062.68 |
| 153 | 29.82 | 1.45 | 3925.73 | 0.00 | 2062.68 |
| 154 | 29.82 | 1.46 | 3927.19 | 0.00 | 2062.68 |
| 155 | 31.59 | 1.45 | 3928.64 | 0.00 | 2062.68 |
| 156 | 32.30 | 1.45 | 3930.10 | 0.00 | 2062.68 |
| 157 | 34.08 | 1.45 | 3931.55 | 0.00 | 2062.68 |
| 158 | 34.08 | 1.43 | 3932.98 | 0.00 | 2062.68 |
| 159 | 36.92 | 1.43 | 3934.40 | 0.00 | 2062.68 |
| 160 | 37.98 | 1.44 | 3935.84 | 0.00 | 2062.68 |
| 161 | 38.34 | 1.40 | 3937.24 | 0.00 | 2062.68 |
| 162 | 39.40 | 1.35 | 3938.59 | 0.00 | 2062.68 |
| 163 | 41.89 | 1.34 | 3939.93 | 0.00 | 2062.68 |

R854 WNL (CRI90 1050mA 12D)

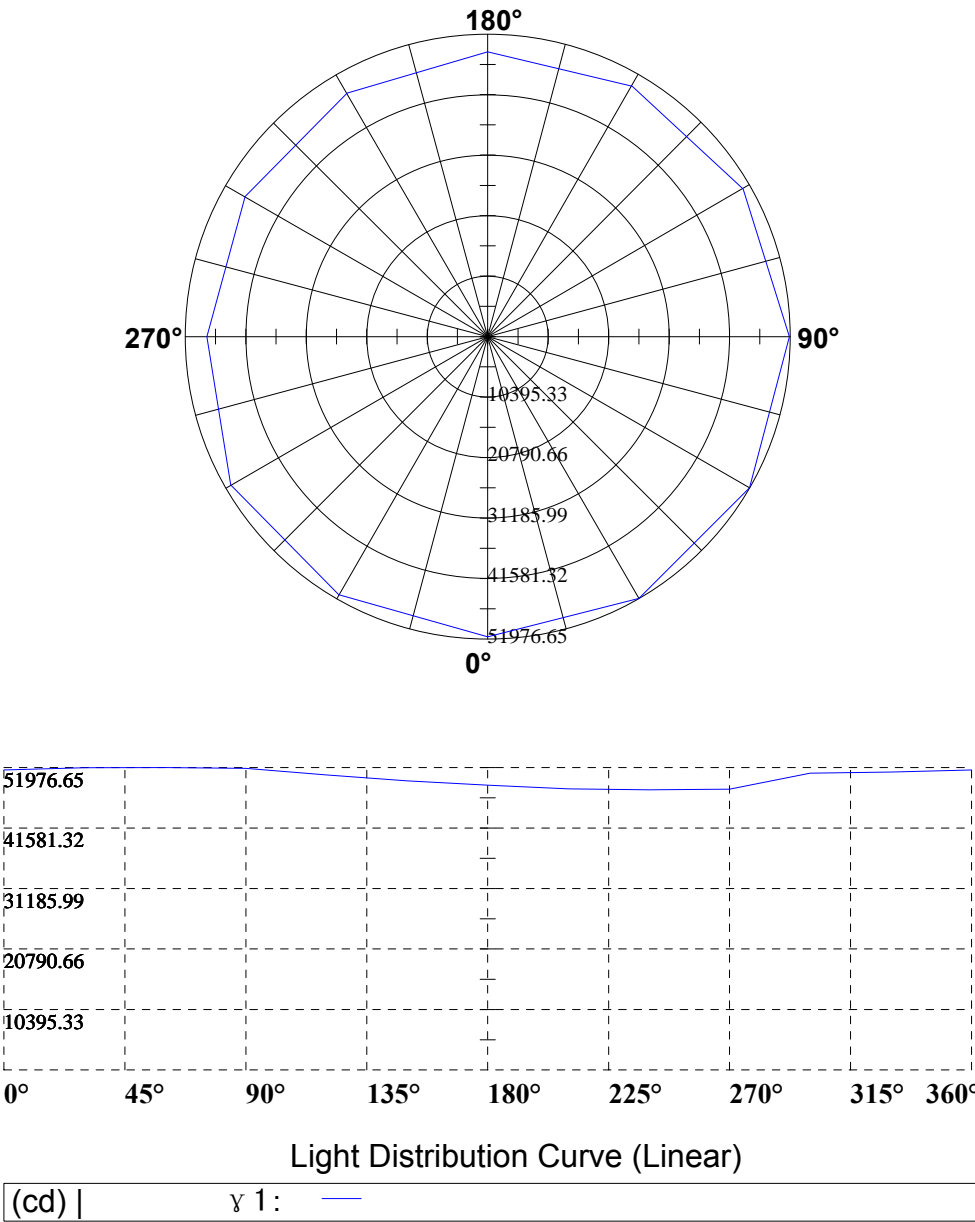
Zonal flux distribution table

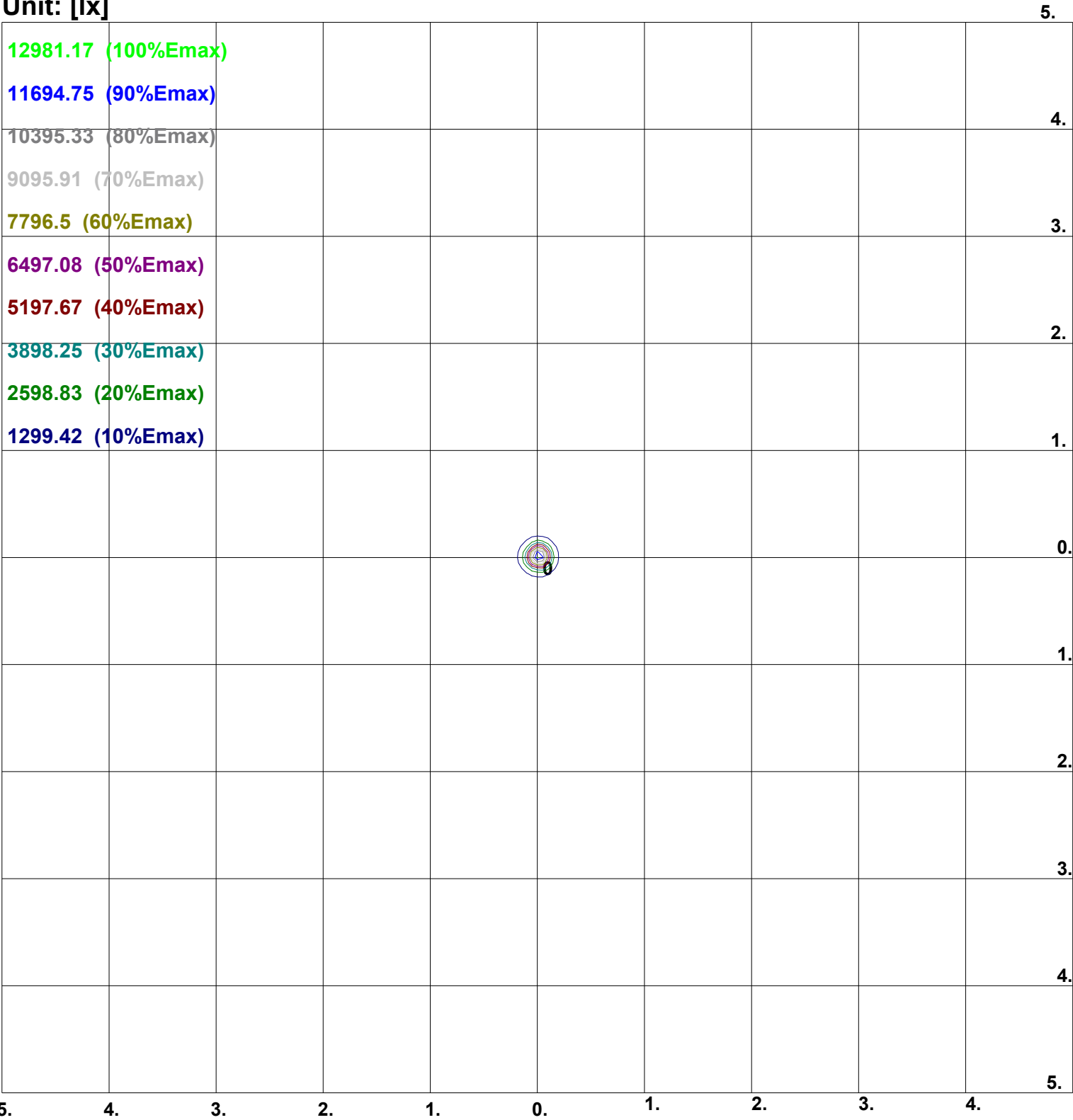
Page13

[illegible]



Horizontal cone through Max.cd [Unit: cd]





Coordinate Scale: d/h
Height: 2 m
Max Illuminance : 12994.16lx

Luminance Limiting Curve (There is not luminous side)

Diameter: 140mm

Length: -140mm

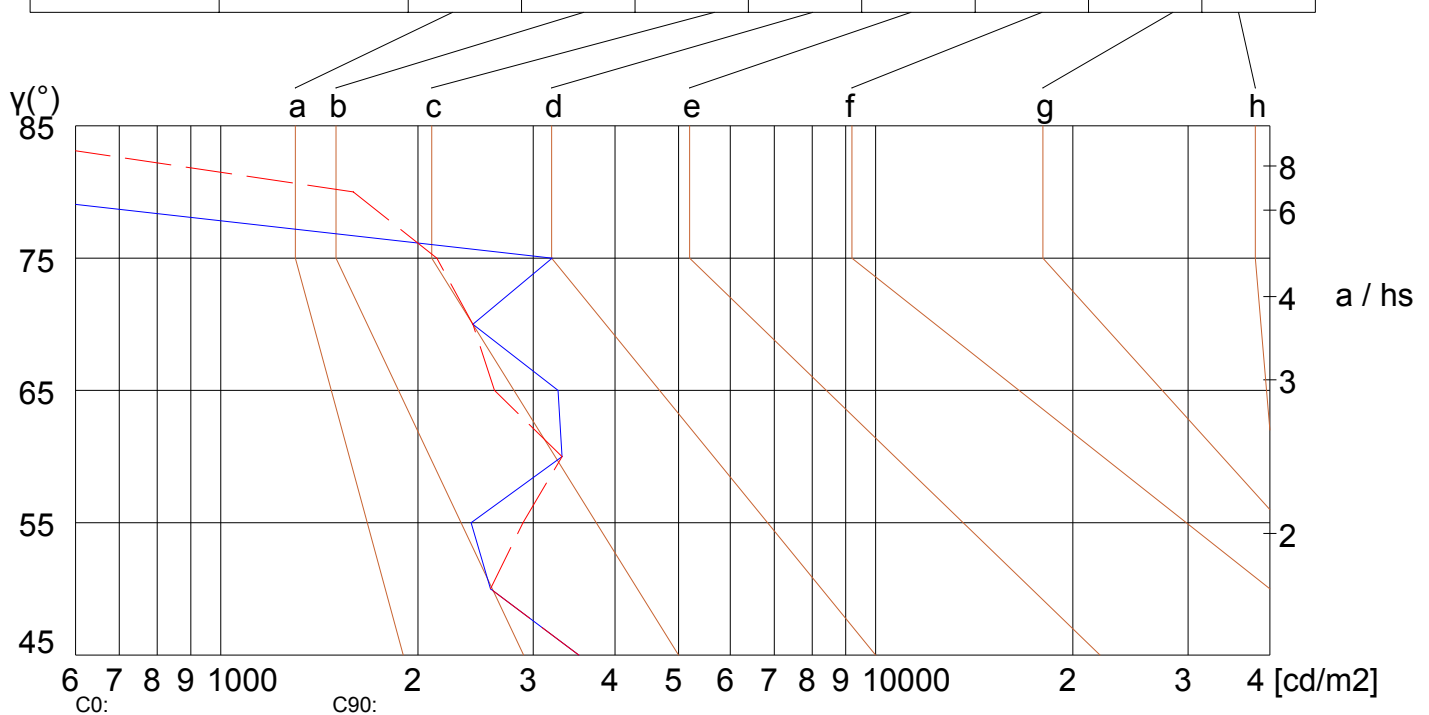
Width: -140mm

Height: 100mm

(cd/m²)

| γ | 45° | 50° | 55° | 60° | 65° | 70° | 75° | 80° | 85° |
|----------|------|------|------|------|------|------|------|-----|-----|
| C0 | 3521 | 2582 | 2893 | 3319 | 2618 | 2426 | 2137 | | |
| C90 | 3521 | 2582 | 2411 | 3319 | 3272 | 2426 | 3206 | | |

| 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 12D)

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 | 1.05 | 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 | 0.89 |
| 1 | 1.04 | 1.03 | 1.03 | 1.02 | 1.01 | 1.01 | 0.98 | 0.97 | 0.97 | 0.93 | 0.92 | 0.92 | 0.86 | 0.86 | 0.85 | 0.80 |
| 2 | 1.00 | 1.00 | 0.99 | 0.99 | 0.98 | 0.97 | 0.95 | 0.94 | 0.93 | 0.90 | 0.89 | 0.88 | 0.84 | 0.83 | 0.82 | 0.78 |
| 3 | 0.97 | 0.96 | 0.96 | 0.95 | 0.94 | 0.94 | 0.92 | 0.90 | 0.89 | 0.87 | 0.86 | 0.84 | 0.82 | 0.81 | 0.79 | 0.75 |
| 4 | 0.94 | 0.93 | 0.93 | 0.92 | 0.91 | 0.90 | 0.89 | 0.87 | 0.86 | 0.85 | 0.83 | 0.82 | 0.80 | 0.78 | 0.76 | 0.73 |
| 5 | 0.91 | 0.90 | 0.90 | 0.90 | 0.89 | 0.88 | 0.86 | 0.85 | 0.83 | 0.83 | 0.81 | 0.79 | 0.79 | 0.76 | 0.74 | 0.71 |
| 6 | 0.89 | 0.88 | 0.87 | 0.87 | 0.86 | 0.85 | 0.84 | 0.82 | 0.81 | 0.81 | 0.78 | 0.77 | 0.77 | 0.74 | 0.72 | 0.69 |
| 7 | 0.86 | 0.86 | 0.85 | 0.85 | 0.84 | 0.83 | 0.82 | 0.80 | 0.79 | 0.79 | 0.76 | 0.75 | 0.75 | 0.72 | 0.70 | 0.67 |
| 8 | 0.84 | 0.84 | 0.83 | 0.83 | 0.82 | 0.81 | 0.80 | 0.78 | 0.77 | 0.77 | 0.74 | 0.73 | 0.73 | 0.71 | 0.69 | 0.65 |
| 9 | 0.82 | 0.82 | 0.81 | 0.81 | 0.80 | 0.79 | 0.78 | 0.76 | 0.75 | 0.75 | 0.73 | 0.71 | 0.72 | 0.69 | 0.67 | 0.64 |
| 10 | 0.81 | 0.80 | 0.79 | 0.79 | 0.78 | 0.77 | 0.76 | 0.75 | 0.73 | 0.73 | 0.71 | 0.70 | 0.70 | 0.68 | 0.65 | 0.63 |

