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Nata

LumCAT: 2-1793-N	
Luminaire: 92.70.135.00	
Report No: NATA0100	Voltage(V): 33.8000
Test No: GC2018061913	Current(A): 0.5000
LampCAT: NICHIA NFCW108B-V3	Power (W): 16.9000
Lamp flux(lm): 2263.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 69	Width(mm): 69
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1894.89
Efficiency(%): 83.73%
Lumens(lm)/Power(W): 112.70
Central intensity(cd): 10487.070
Maximum intensity(cd): 10487.070
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=18.2
 [C90/270]Total=18.2
Field angle(10%Imax): [C0/180]Total=44.7
 [C90/270]Total=44.7
Maximum s/h(1/2): C0_180=0.31 C90_270=0.31
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.16%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.615%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/6/19
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10487.074	10.036	10.036	.443%	.530%
2.0	10082.272	77.169	87.205	3.410%	4.602%
4.0	9003.373	137.738	224.943	6.087%	11.871%
6.0	7597.164	174.161	399.104	7.696%	21.062%
8.0	6084.007	185.699	584.803	8.206%	30.862%
10.0	4576.494	174.288	759.092	7.702%	40.060%
12.0	3414.185	155.679	914.771	6.879%	48.276%
14.0	2530.323	134.251	1049.022	5.932%	55.361%
16.0	1950.855	117.931	1166.953	5.211%	61.584%
18.0	1574.131	106.681	1273.634	4.714%	67.214%
20.0	1299.820	97.499	1371.133	4.308%	72.360%
22.0	1074.494	88.276	1459.41	3.901%	77.018%
24.0	923.764	82.402	1541.812	3.641%	81.367%
26.0	796.528	76.579	1618.391	3.384%	85.408%
28.0	649.886	66.913	1685.304	2.957%	88.940%
30.0	495.494	54.334	1739.638	2.401%	91.807%
32.0	334.929	38.925	1778.563	1.720%	93.861%
34.0	187.687	23.018	1801.581	1.017%	95.076%
36.0	89.178	11.496	1813.077	.508%	95.683%
38.0	48.931	6.607	1819.683	.292%	96.031%
40.0	38.450	5.420	1825.104	.240%	96.317%
42.0	32.414	4.757	1829.861	.210%	96.568%
44.0	27.040	4.119	1833.98	.182%	96.786%
46.0	23.096	3.644	1837.624	.161%	96.978%
48.0	20.550	3.349	1840.973	.148%	97.155%
50.0	18.774	3.154	1844.127	.139%	97.321%
52.0	17.659	3.052	1847.179	.135%	97.482%
54.0	16.950	3.007	1850.186	.133%	97.641%
56.0	16.531	3.006	1853.192	.133%	97.800%
58.0	16.159	3.005	1856.197	.133%	97.958%
60.0	15.836	3.008	1859.205	.133%	98.117%
62.0	15.643	3.029	1862.234	.134%	98.277%
64.0	15.216	2.999	1865.234	.133%	98.435%
66.0	14.473	2.900	1868.133	.128%	98.588%
68.0	13.606	2.767	1870.9	.122%	98.734%
70.0	12.828	2.644	1873.544	.117%	98.874%
72.0	12.119	2.528	1876.071	.112%	99.007%
74.0	11.514	2.427	1878.499	.107%	99.135%

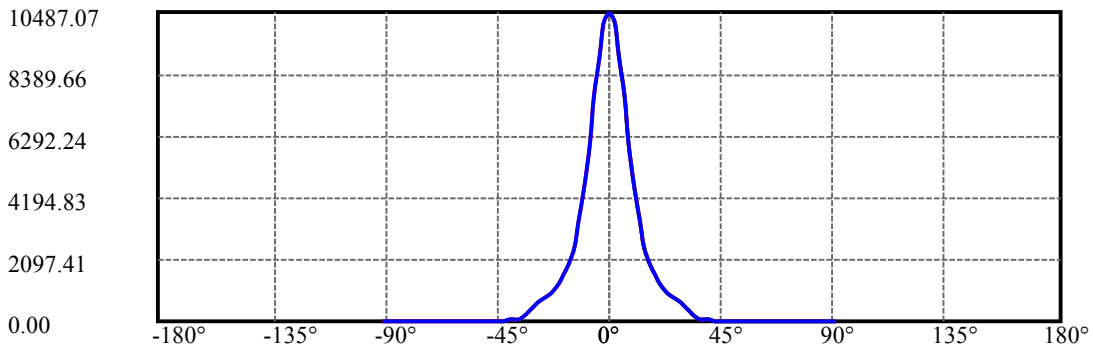
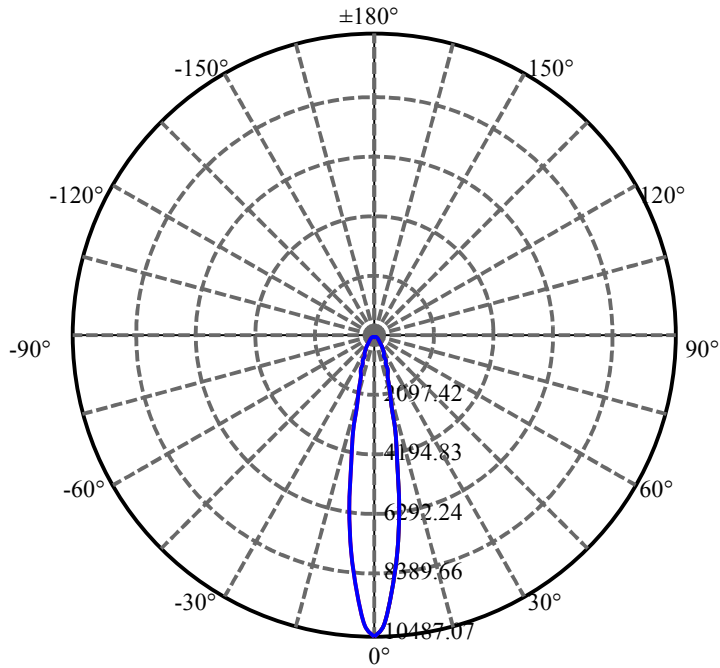
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	11.066	2.355	1880.854	.104%	99.259%
78.0	10.764	2.309	1883.163	.102%	99.381%
80.0	10.516	2.271	1885.434	.100%	99.501%
82.0	10.227	2.221	1887.655	.098%	99.618%
84.0	9.965	2.174	1889.828	.096%	99.733%
86.0	9.635	2.108	1891.936	.093%	99.844%
88.0	9.057	1.985	1893.921	.088%	99.949%
90.0	8.795	0.964	1894.886	.043%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1739.64	76.87%	91.81%
0-40	1825.10	80.65%	96.32%
0-60	1859.21	82.16%	98.12%
0-90	1893.92	83.69%	99.95%
0-120	1893.92	83.69%	99.95%
0-180	1894.89	83.73%	100.00%
60-90	37.72	1.67%	1.99%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-23.37	1515.91	66.99%	80.00%

ZONAL LUMEN SUMMARY

0-10	759.09
10-20	612.04
20-30	368.50
30-40	85.47
40-50	19.02
50-60	15.08
60-70	14.34
70-80	11.89
80-90	8.49
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



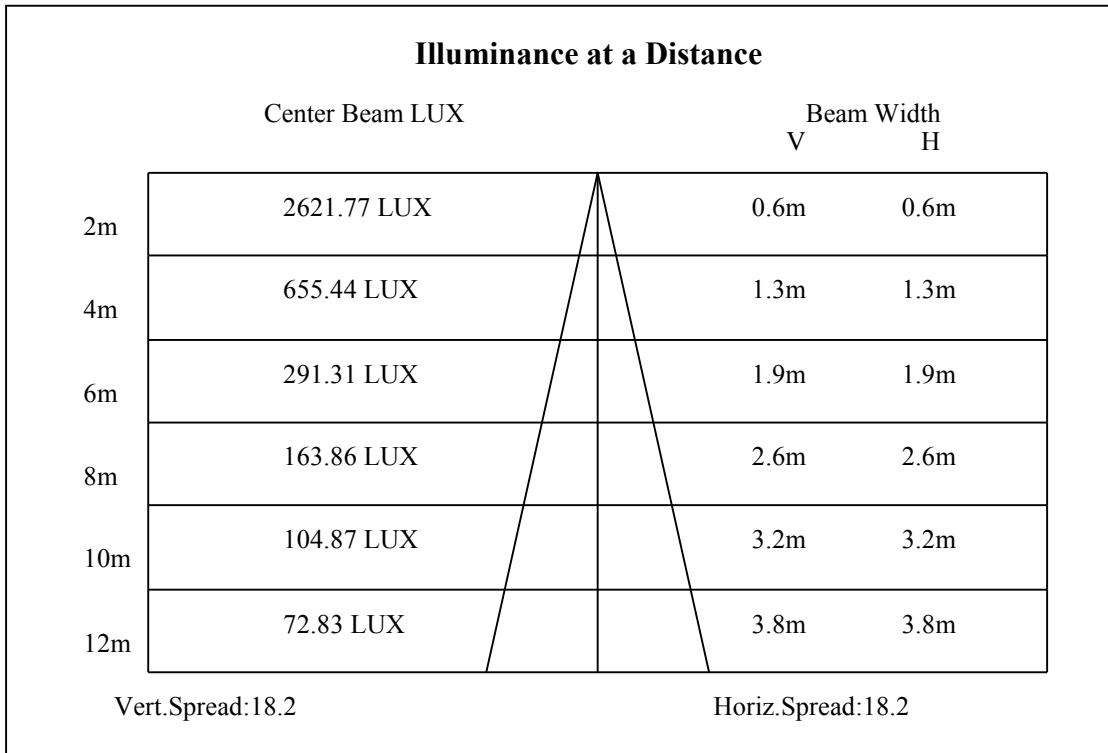
C0(Max): —————

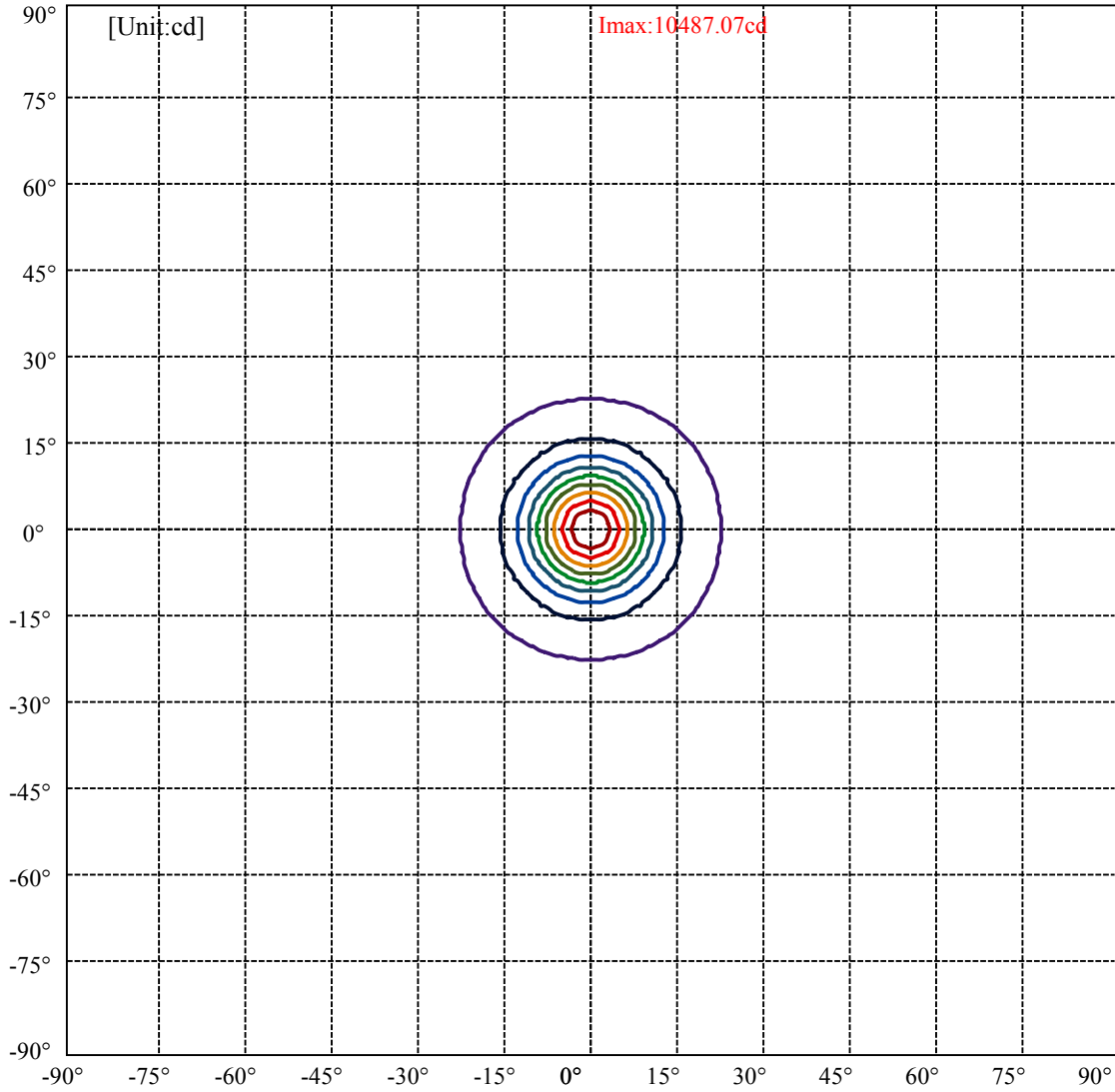
C0/C180: —————

C90/C270: —————

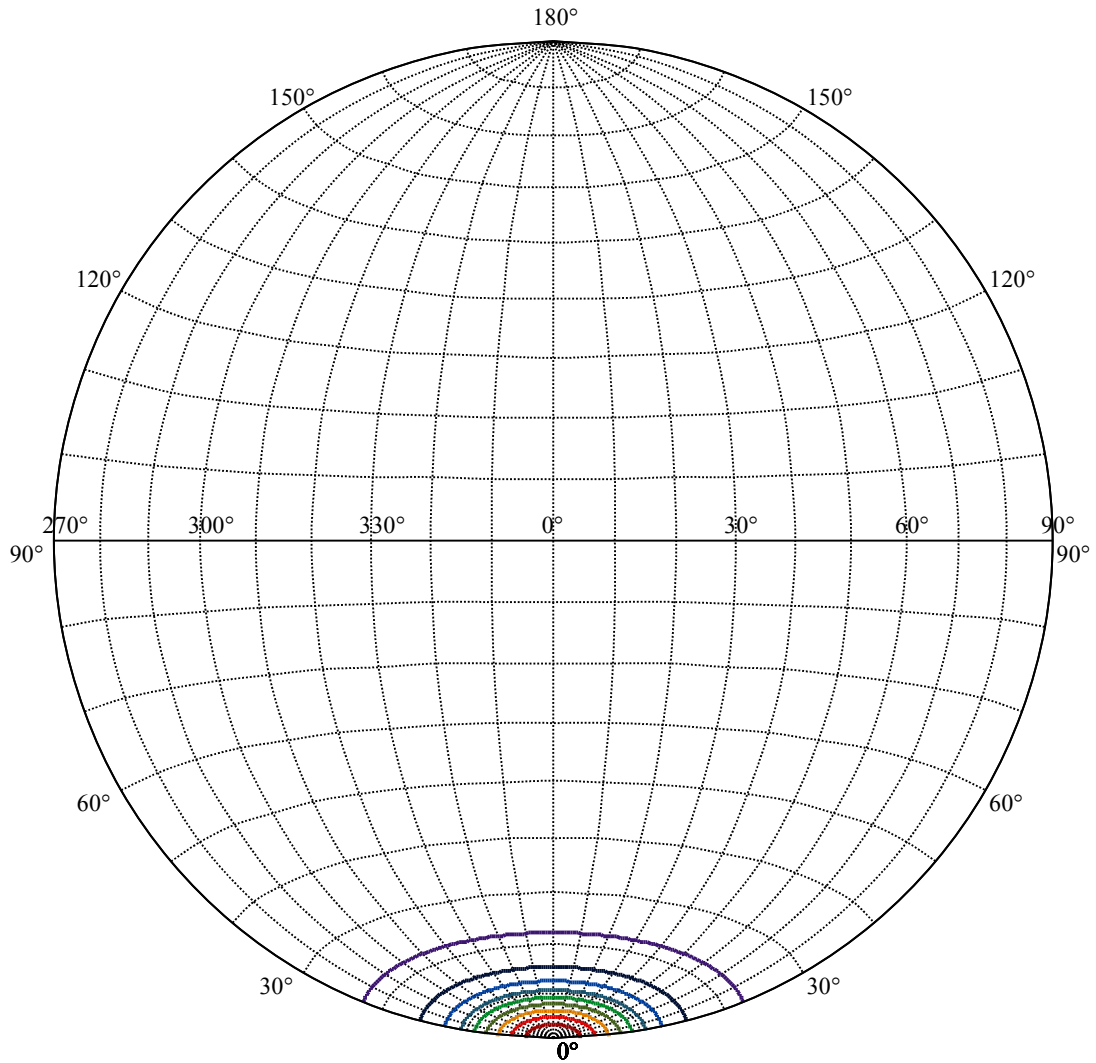
Field angle(10%Imax):C0/180Left:22.3 Right:22.3
:C90/270Left:22.3 Right:22.3

Beam Angle(50%Imax):C0/180Left:9.1 Right:9.1
:C90/270Left:9.1 Right:9.1





(10%Imax) 1048.71	—
(20%Imax) 2097.41	—
(30%Imax) 3146.12	—
(40%Imax) 4194.83	—
(50%Imax) 5243.54	—
(60%Imax) 6292.24	—
(70%Imax) 7340.95	—
(80%Imax) 8389.66	—
(90%Imax) 9438.37	—



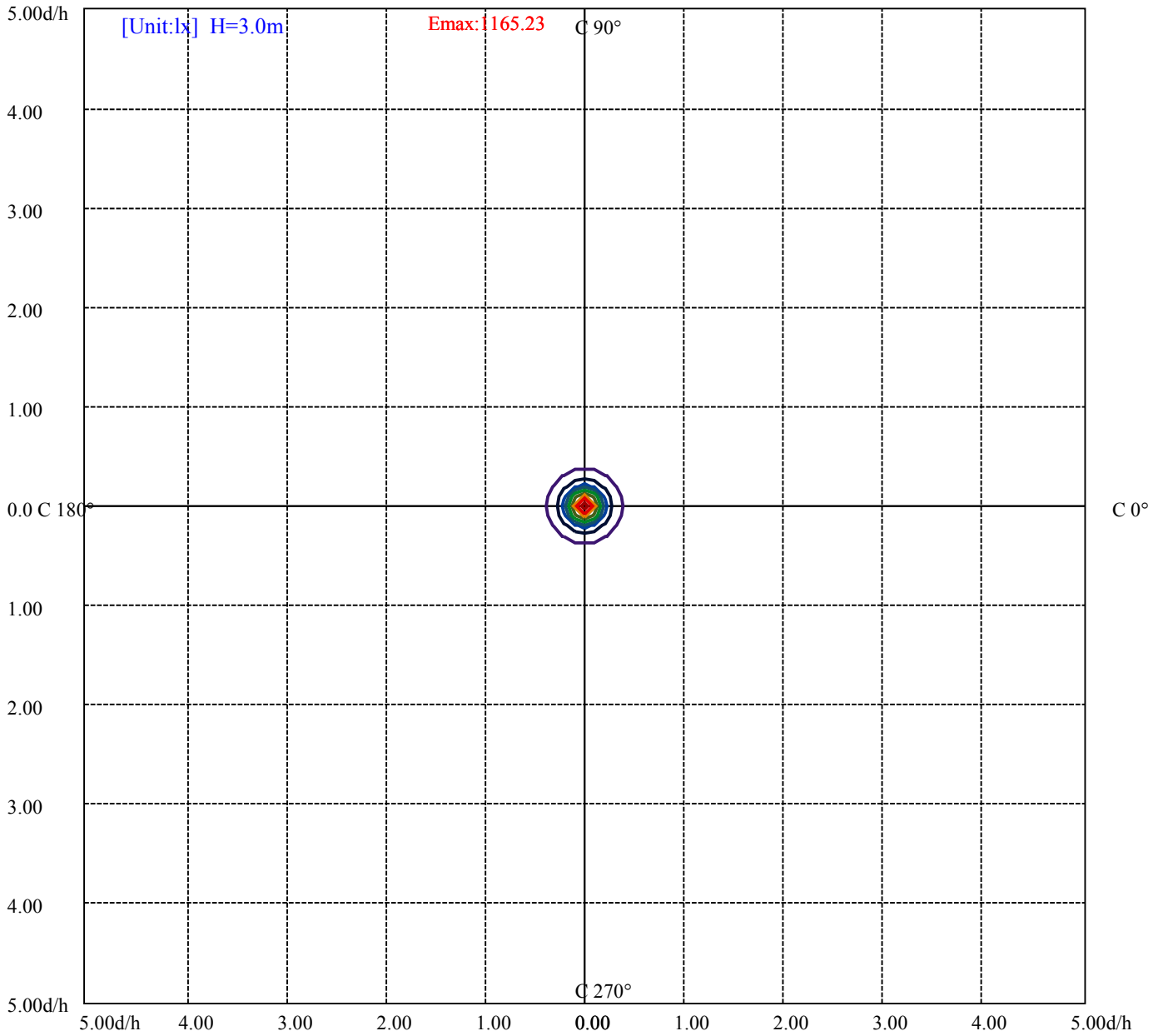
House

[Unit:cd]

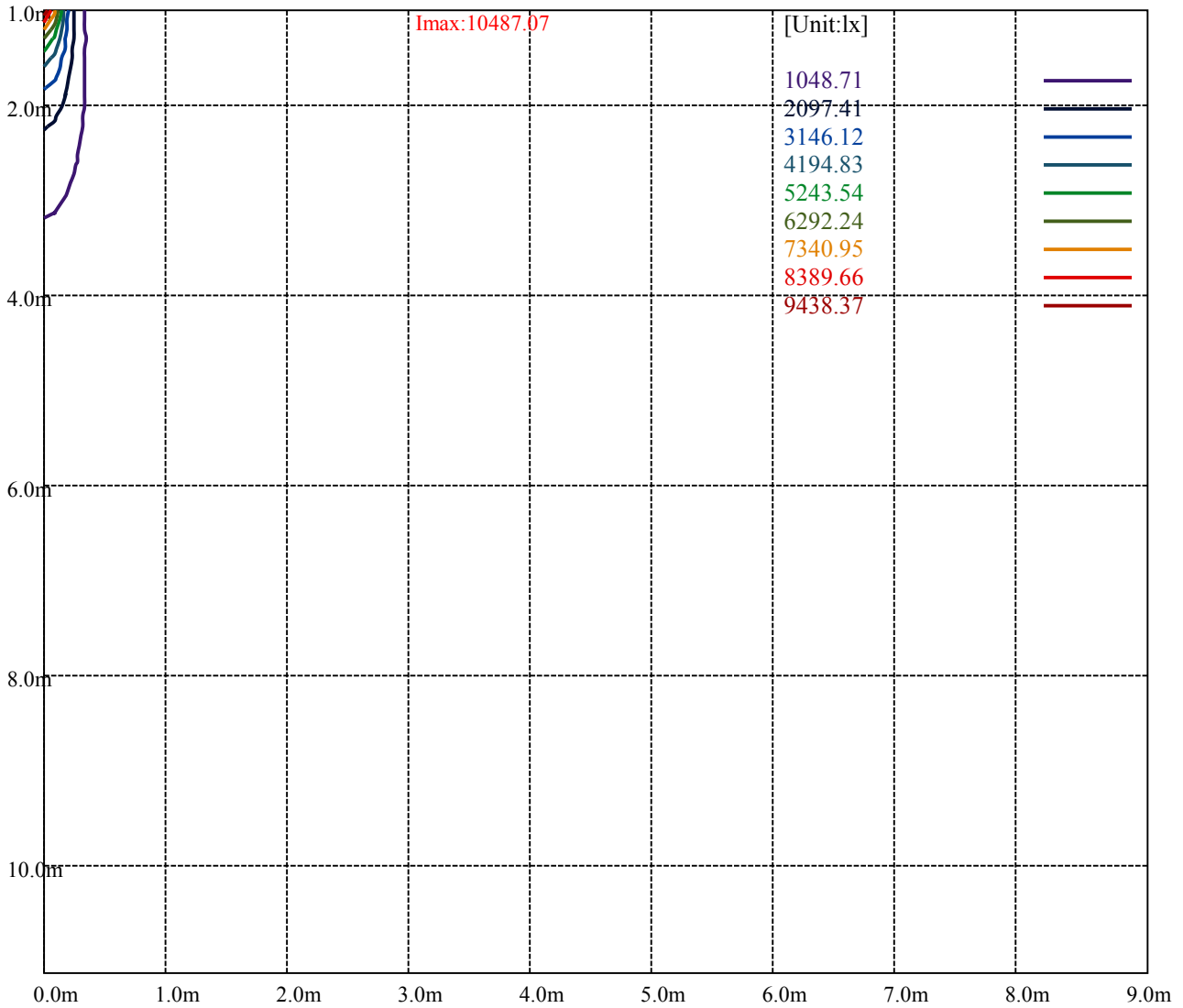
Road

Imax:10487.07

(10%Imax) 1048.71	—
(20%Imax) 2097.41	—
(30%Imax) 3146.12	—
(40%Imax) 4194.83	—
(50%Imax) 5243.54	—
(60%Imax) 6292.24	—
(70%Imax) 7340.95	—
(80%Imax) 8389.66	—
(90%Imax) 9438.37	—



- (10%Emax) 116.5222
- (20%Emax) 233.0455
- (30%Emax) 349.5678
- (40%Emax) 466.0911
- (50%Emax) 582.6133
- (60%Emax) 699.1367
- (70%Emax) 815.6589
- (80%Emax) 932.1811
- (90%Emax) 1048.704



Luminance Table

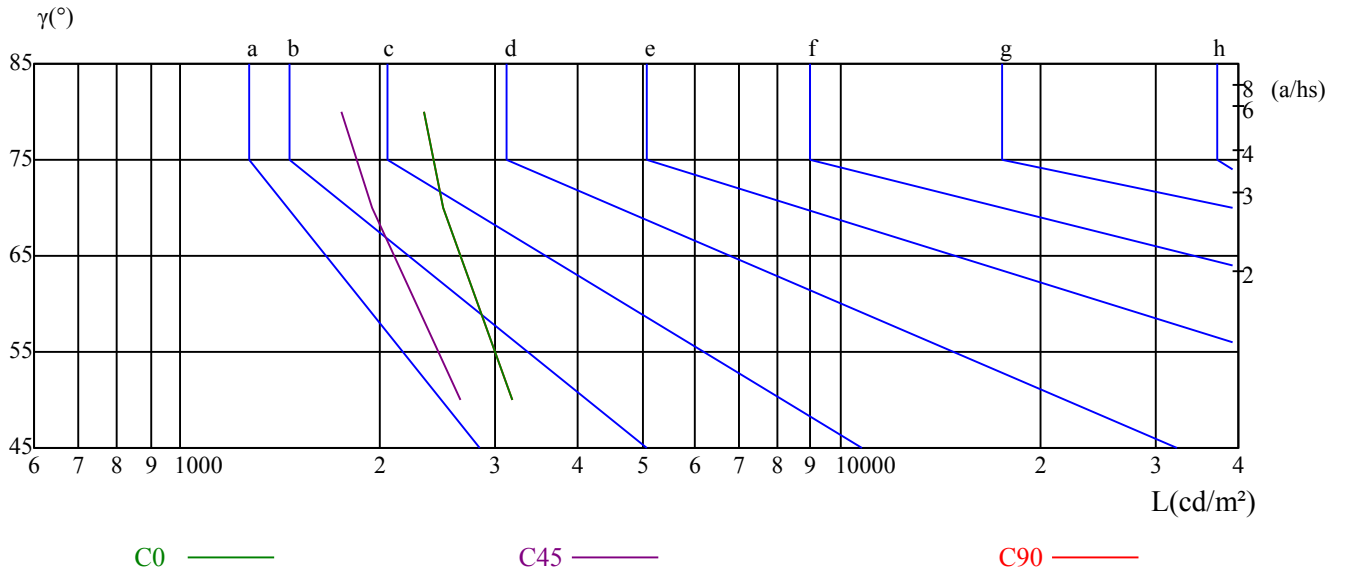
γ	45	50	55	60	65	70	75	80	85
C0	0	3174	0	2824	0	2501	0	2339	0
C45	0	2645	0	2281	0	1950	0	1748	0
C90	0	3174	0	2824	0	2501	0	2339	0

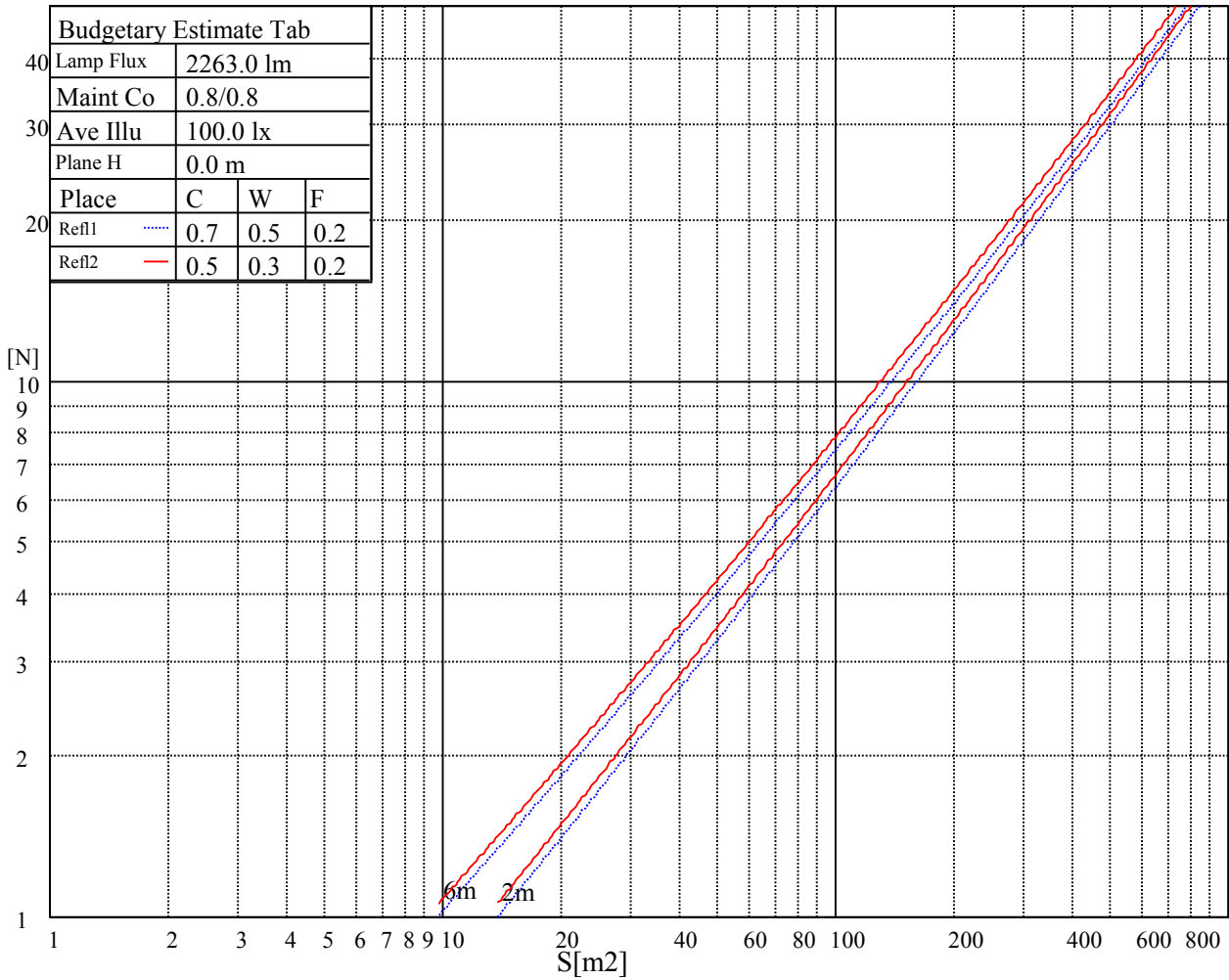
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7039	7039	7039	9360	9360	9360	23899	23899	23899

Glare Table

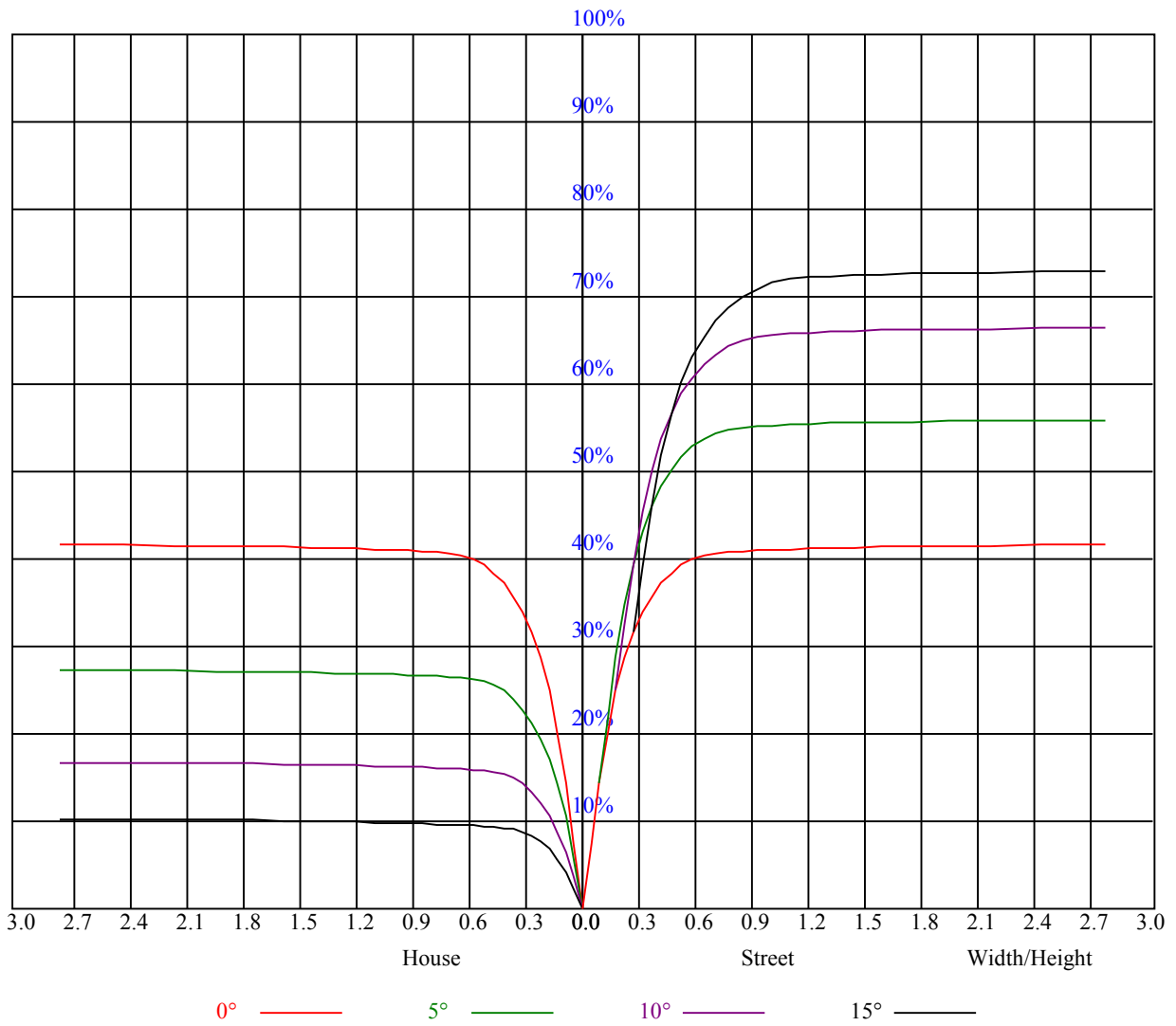
Glare	Quality	Service Values Illuminance(lx)							
		a	b	c	d	e	f	g	h
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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 RHOFC=20 CU															
0	1.00	1.00	1.00	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.94	0.92	0.90	0.92	0.90	0.89	0.89	0.87	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.80
2	0.89	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.80	0.80	0.79	0.78	0.77
3	0.85	0.82	0.79	0.84	0.81	0.79	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.74
4	0.82	0.78	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
5	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.75	0.73	0.71	0.74	0.72	0.70	0.69
6	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.72	0.70	0.68	0.67
7	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.65
8	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.63
9	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.67	0.64	0.62	0.62
10	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	10500.91	10465.67	9578.16	8107.05	6653.57	5059.13	3750.99	2786.95	2119.67
45.0	10542.75	9695.43	8383.99	6829.20	5259.54	3804.40	2828.80	2097.10	1664.35
90.0	10380.33	9390.42	7920.96	6447.66	4810.28	3456.44	2594.26	1949.00	1560.30
135.0	10542.75	9748.84	8508.97	6902.42	5475.91	3996.54	2943.32	2236.39	1767.31
180.0	10500.91	9753.24	8476.48	7091.81	5492.98	4037.29	3047.92	2267.77	1794.29
225.0	10542.75	10460.72	9590.27	8248.55	6885.90	5315.70	3902.95	2947.17	2253.46
270.0	10343.45	10635.80	9978.97	8816.18	7357.19	5753.39	4412.77	3188.32	2353.66
315.0	10542.75	10508.06	9589.17	8334.44	6736.70	5189.07	3832.48	2769.89	2093.79
360.0	10500.91	10465.67	9578.16	8107.05	6653.57	5059.13	3750.99	2786.95	2119.67
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	1715.56	1429.26	1195.27	993.22	868.79	728.95	559.37	387.05	280.79
45.0	1401.74	1175.45	988.81	856.13	734.45	562.13	401.91	283.54	105.32
90.0	1270.15	1047.78	859.71	751.19	623.07	464.46	326.21	183.67	86.49
135.0	1451.84	1210.69	1012.49	869.89	748.22	576.44	414.57	278.59	110.39
180.0	1458.99	1215.65	1014.03	880.41	762.53	592.30	424.48	253.31	128.17
225.0	1771.16	1463.40	1205.18	1018.49	876.77	754.05	603.80	421.46	259.37
270.0	1861.46	1487.62	1228.86	1031.76	891.36	774.64	639.20	460.27	295.65
315.0	1662.15	1368.70	1091.60	989.03	867.03	746.12	594.39	411.55	235.31
360.0	1715.56	1429.26	1195.27	993.22	868.79	728.95	559.37	387.05	280.79
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	106.09	57.70	46.14	40.03	33.47	28.35	24.94	22.46	20.76
45.0	59.08	46.80	39.75	33.09	27.58	23.67	21.42	19.71	18.55
90.0	52.58	41.40	34.36	29.23	25.05	22.24	20.43	19.21	18.39
135.0	49.50	37.44	30.61	25.27	21.31	18.28	16.85	15.58	14.92
180.0	52.69	39.48	31.93	26.48	22.08	19.21	17.23	15.80	14.92
225.0	122.78	52.36	38.81	32.48	26.15	21.97	18.83	16.96	15.75
270.0	158.89	61.00	43.22	35.29	29.68	24.94	21.97	20.21	19.05
315.0	111.82	55.28	42.78	37.44	31.00	26.10	22.74	20.26	18.94
360.0	106.09	57.70	46.14	40.03	33.47	28.35	24.94	22.46	20.76
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	19.27	18.17	17.40	16.74	16.13	15.75	14.98	14.15	13.54
45.0	17.67	16.90	16.35	15.75	15.36	14.53	13.65	12.88	12.39
90.0	18.11	17.95	17.34	16.57	16.02	14.87	13.71	12.72	11.89
135.0	14.70	14.76	14.87	15.31	15.80	15.53	14.59	13.49	12.61
180.0	14.42	14.15	13.82	13.82	13.87	13.65	13.27	12.94	12.39
225.0	14.92	14.70	14.70	14.70	15.20	15.69	15.42	14.59	13.65
270.0	18.66	18.50	18.33	17.95	17.40	16.68	15.97	14.70	13.54
315.0	17.84	17.12	16.46	15.86	15.36	15.03	14.20	13.38	12.61
360.0	19.27	18.17	17.40	16.74	16.13	15.75	14.98	14.15	13.54
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	12.99	12.50	12.11	11.89	11.67	11.34	11.07	10.79	10.02
45.0	11.78	11.34	11.07	10.79	10.57	10.24	9.97	9.30	8.97
90.0	11.40	10.90	10.57	10.30	9.97	9.74	9.41	8.70	8.42
135.0	11.89	11.29	10.90	10.57	10.46	10.08	9.86	9.63	8.81
180.0	11.73	11.12	10.68	10.41	10.13	9.97	9.80	9.74	8.92
225.0	12.72	11.67	10.90	10.57	10.24	9.97	9.69	9.52	9.08
270.0	12.44	11.73	11.23	10.85	10.52	10.13	9.80	9.47	8.86
315.0	12.00	11.56	11.07	10.74	10.57	10.35	10.13	9.91	9.36
360.0	12.99	12.50	12.11	11.89	11.67	11.34	11.07	10.79	10.02

Intensity data(cd)

C/γ(°)	90.0
0.0	9.69
45.0	8.75
90.0	8.42
135.0	8.59
180.0	8.53
225.0	8.75
270.0	8.59
315.0	9.03
360.0	9.69