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Nata

LumCAT: 1496-S	
Luminaire: 92.70.064.00	
Report No: 220527-B009	Voltage(V): 35.2400
Test No: 220527-C009	Current(A): 0.3430
LampCAT: OSRAM OPTO SOLERIQ S9	Power (W): 12.0870
Lamp flux(lm): 1561.6	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1260.93
Efficiency(%): 80.75%
Lumens(lm)/Power(W): 104.32
Central intensity(cd): 5215.682
Maximum intensity(cd): 5215.682
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=22.5
 [C90/270]Total=22.5
Field angle(10%Imax): [C0/180]Total=53.2
 [C90/270]Total=53.2
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 80.75%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.982%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5215.681	0.000	0	.000%	.000%
1.0	5178.709	4.974	4.974	.318%	.394%
2.0	5054.274	14.687	19.661	.941%	1.559%
3.0	4872.700	23.742	43.403	1.520%	3.442%
4.0	4657.664	31.901	75.304	2.043%	5.972%
5.0	4374.136	38.854	114.158	2.488%	9.054%
6.0	4071.637	44.385	158.543	2.842%	12.574%
7.0	3789.828	48.796	207.339	3.125%	16.443%
8.0	3481.503	52.040	259.379	3.333%	20.571%
9.0	3200.963	54.158	313.536	3.468%	24.866%
10.0	2930.805	55.490	369.027	3.554%	29.266%
11.0	2666.025	55.924	424.951	3.581%	33.701%
12.0	2448.375	55.908	480.858	3.580%	38.135%
13.0	2223.480	55.443	536.301	3.550%	42.532%
14.0	1996.942	54.021	590.322	3.459%	46.817%
15.0	1827.020	52.497	642.82	3.362%	50.980%
16.0	1660.832	51.107	693.926	3.273%	55.033%
17.0	1479.781	48.908	742.834	3.132%	58.912%
18.0	1323.258	46.216	789.05	2.960%	62.577%
19.0	1211.169	44.094	833.144	2.824%	66.074%
20.0	1102.135	42.340	875.484	2.711%	69.432%
21.0	994.273	40.255	915.739	2.578%	72.624%
22.0	898.549	38.037	953.776	2.436%	75.641%
23.0	808.569	35.820	989.596	2.294%	78.482%
24.0	725.497	33.540	1023.136	2.148%	81.142%
25.0	644.943	31.161	1054.297	1.995%	83.613%
26.0	568.452	28.642	1082.939	1.834%	85.884%
27.0	490.922	25.918	1108.857	1.660%	87.940%
28.0	410.756	22.829	1131.686	1.462%	89.750%
29.0	342.026	19.695	1151.381	1.261%	91.312%
30.0	288.427	17.022	1168.403	1.090%	92.662%
31.0	219.390	14.132	1182.535	.905%	93.783%
32.0	159.951	10.868	1193.402	.696%	94.645%
33.0	114.188	8.076	1201.479	.517%	95.285%
34.0	77.081	5.788	1207.267	.371%	95.745%
35.0	48.975	3.915	1211.182	.251%	96.055%
36.0	36.001	2.706	1213.887	.173%	96.270%
37.0	28.510	2.104	1215.991	.135%	96.436%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	21.362	1.665	1217.656	.107%	96.568%
39.0	15.192	1.248	1218.904	.080%	96.667%
40.0	13.093	0.986	1219.89	.063%	96.746%
41.0	12.182	0.900	1220.79	.058%	96.817%
42.0	11.375	0.856	1221.646	.055%	96.885%
43.0	10.763	0.820	1222.466	.053%	96.950%
44.0	10.277	0.794	1223.26	.051%	97.013%
45.0	9.882	0.775	1224.035	.050%	97.074%
46.0	9.553	0.760	1224.795	.049%	97.135%
47.0	9.299	0.750	1225.545	.048%	97.194%
48.0	9.038	0.741	1226.286	.047%	97.253%
49.0	8.858	0.735	1227.021	.047%	97.311%
50.0	8.769	0.735	1227.756	.047%	97.369%
51.0	8.739	0.741	1228.497	.047%	97.428%
52.0	8.672	0.747	1229.244	.048%	97.487%
53.0	8.589	0.751	1229.995	.048%	97.547%
54.0	8.545	0.755	1230.75	.048%	97.607%
55.0	8.545	0.763	1231.513	.049%	97.667%
56.0	8.545	0.772	1232.285	.049%	97.729%
57.0	8.530	0.781	1233.066	.050%	97.791%
58.0	8.567	0.791	1233.856	.051%	97.853%
59.0	8.627	0.804	1234.66	.051%	97.917%
60.0	8.642	0.816	1235.476	.052%	97.982%
61.0	8.694	0.827	1236.303	.053%	98.047%
62.0	8.716	0.839	1237.142	.054%	98.114%
63.0	8.799	0.852	1237.994	.055%	98.181%
64.0	8.799	0.863	1238.858	.055%	98.250%
65.0	8.836	0.873	1239.73	.056%	98.319%
66.0	8.896	0.885	1240.615	.057%	98.389%
67.0	8.926	0.896	1241.511	.057%	98.460%
68.0	8.955	0.906	1242.417	.058%	98.532%
69.0	8.993	0.916	1243.332	.059%	98.605%
70.0	9.008	0.924	1244.257	.059%	98.678%
71.0	8.978	0.930	1245.187	.060%	98.752%
72.0	8.985	0.934	1246.121	.060%	98.826%
73.0	8.993	0.940	1247.061	.060%	98.900%
74.0	8.799	0.935	1247.996	.060%	98.975%
75.0	8.739	0.927	1248.923	.059%	99.048%

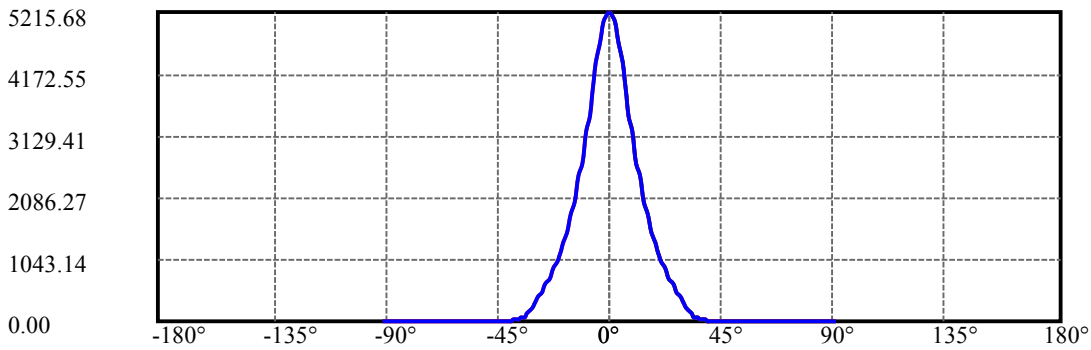
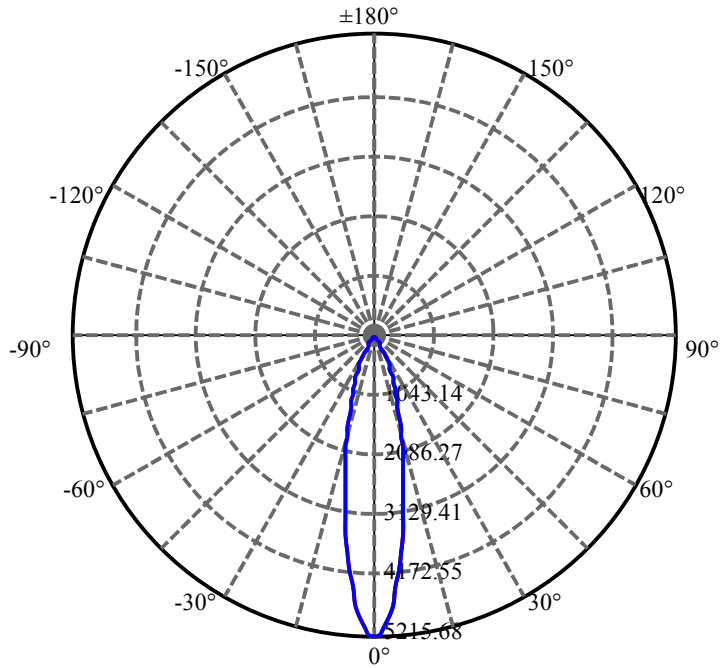
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.679	0.925	1249.847	.059%	99.121%
77.0	8.791	0.931	1250.779	.060%	99.195%
78.0	8.597	0.931	1251.71	.060%	99.269%
79.0	8.321	0.909	1252.618	.058%	99.341%
80.0	8.373	0.900	1253.518	.058%	99.413%
81.0	8.194	0.896	1254.414	.057%	99.484%
82.0	7.887	0.872	1255.286	.056%	99.553%
83.0	7.618	0.843	1256.129	.054%	99.620%
84.0	7.096	0.802	1256.931	.051%	99.683%
85.0	6.677	0.752	1257.683	.048%	99.743%
86.0	6.461	0.718	1258.401	.046%	99.800%
87.0	5.826	0.672	1259.073	.043%	99.853%
88.0	5.639	0.628	1259.701	.040%	99.903%
89.0	5.572	0.615	1260.316	.039%	99.952%
90.0	5.550	0.610	1260.926	.039%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1168.40	74.82%	92.66%
0-40	1219.89	78.12%	96.75%
0-60	1235.48	79.12%	97.98%
0-90	1260.32	80.71%	99.95%
0-120	1260.32	80.71%	99.95%
0-180	1260.93	80.75%	100.00%
60-90	25.66	1.64%	2.03%
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%
0-23.57	1008.74	64.60%	80.00%

ZONAL LUMEN SUMMARY

0-10	369.03
10-20	506.46
20-30	292.92
30-40	51.49
40-50	7.87
50-60	7.72
60-70	8.78
70-80	9.26
80-90	6.80
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: —————

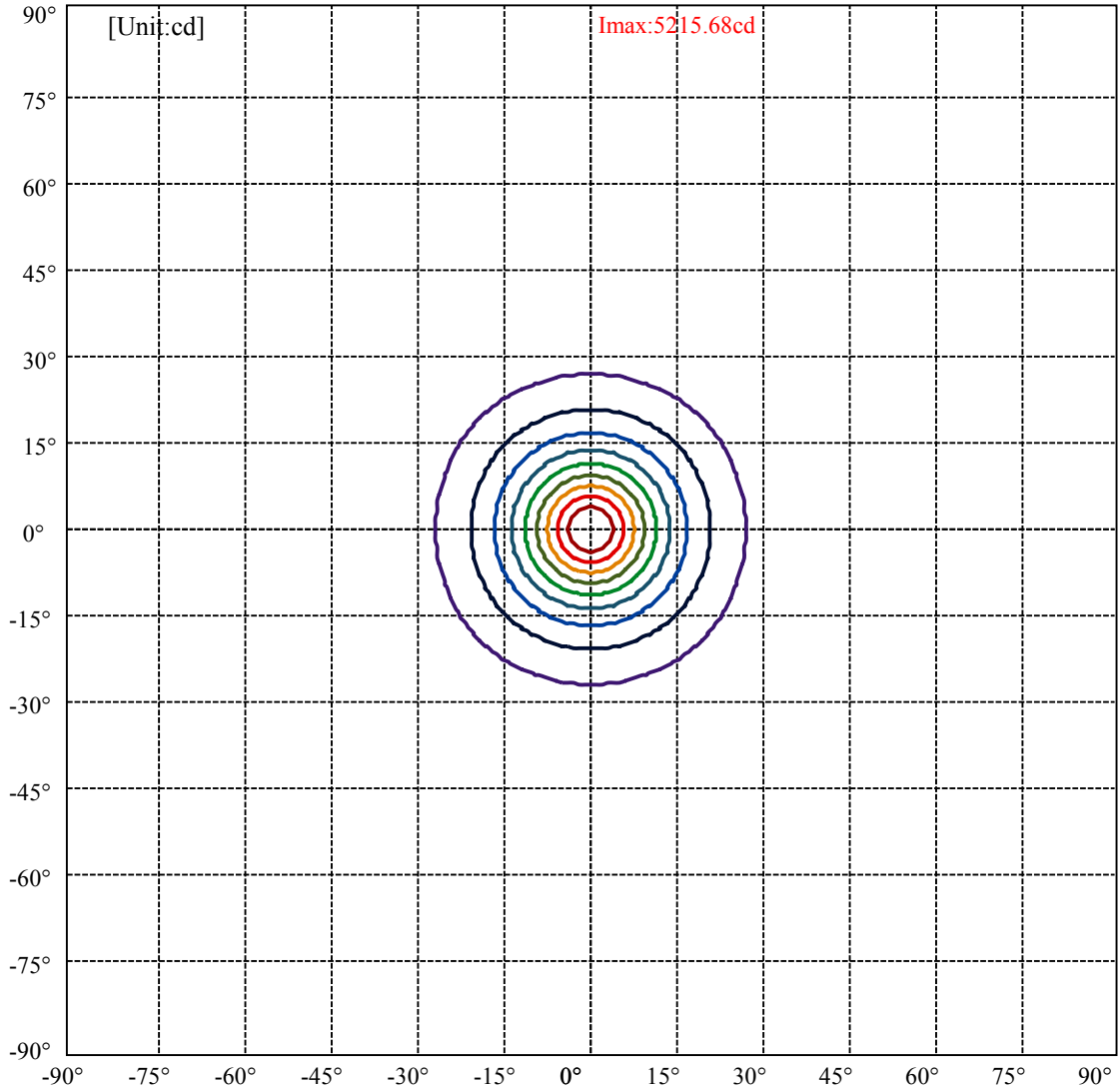
C90/C270: —————

Field angle(10%Imax):C0/180Left:26.6 Right:26.6

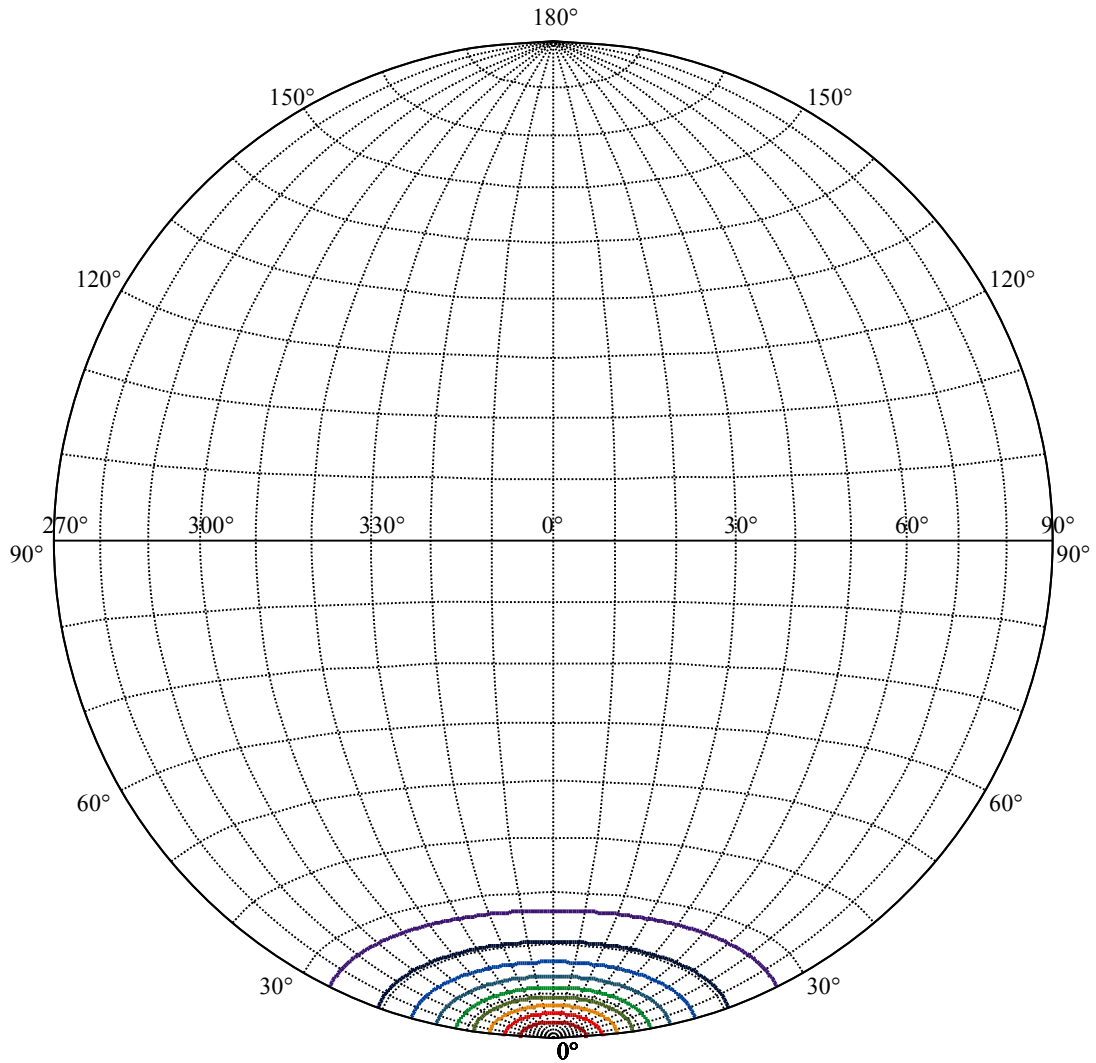
:C90/270Left:26.6 Right:26.6

Beam Angle(50%Imax):C0/180Left:11.3 Right:11.3

:C90/270Left:11.3 Right:11.3



(10%Imax) 521.568	—
(20%Imax) 1043.14	—
(30%Imax) 1564.7	—
(40%Imax) 2086.27	—
(50%Imax) 2607.84	—
(60%Imax) 3129.41	—
(70%Imax) 3650.98	—
(80%Imax) 4172.55	—
(90%Imax) 4694.11	—



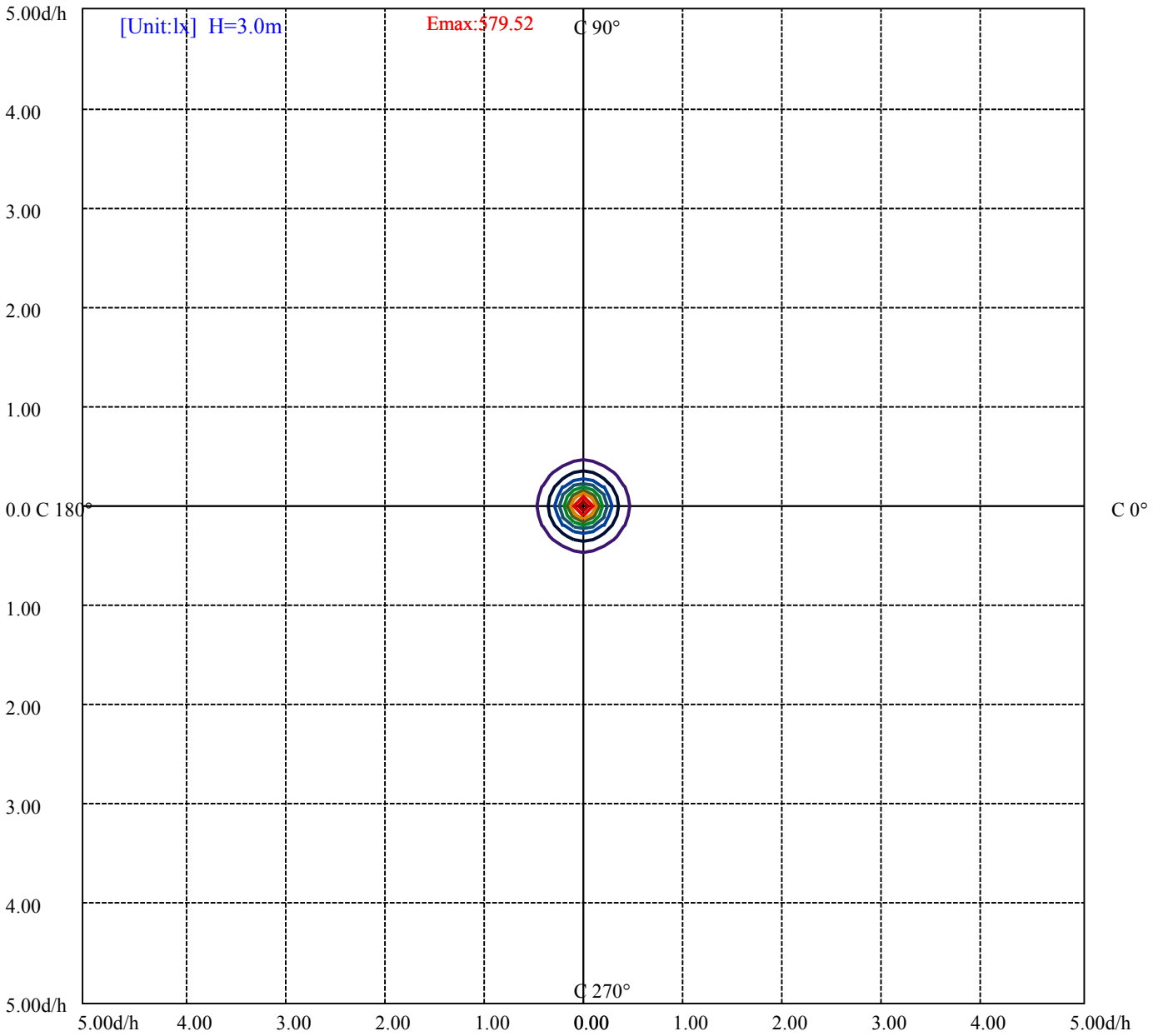
House

[Unit:cd]

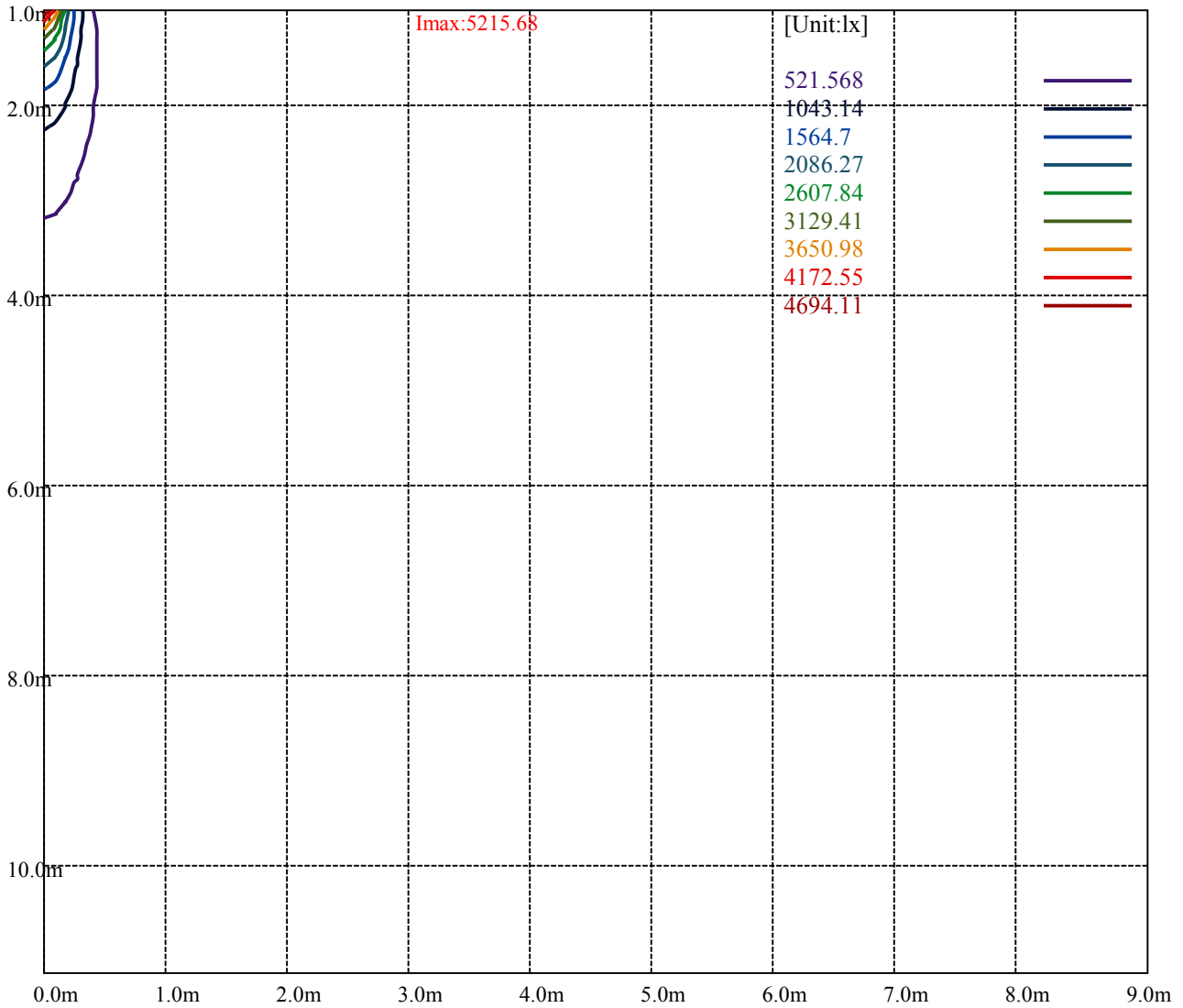
Road

I_{max}:5215.68

(10%I _{max}) 521.568	—
(20%I _{max}) 1043.14	—
(30%I _{max}) 1564.7	—
(40%I _{max}) 2086.27	—
(50%I _{max}) 2607.84	—
(60%I _{max}) 3129.41	—
(70%I _{max}) 3650.98	—
(80%I _{max}) 4172.55	—
(90%I _{max}) 4694.11	—



- (10%Emax) 57.952
- (20%Emax) 115.9044
- (30%Emax) 173.8555
- (40%Emax) 231.8078
- (50%Emax) 289.76
- (60%Emax) 347.7122
- (70%Emax) 405.6633
- (80%Emax) 463.6156
- (90%Emax) 521.5677



Luminance Table

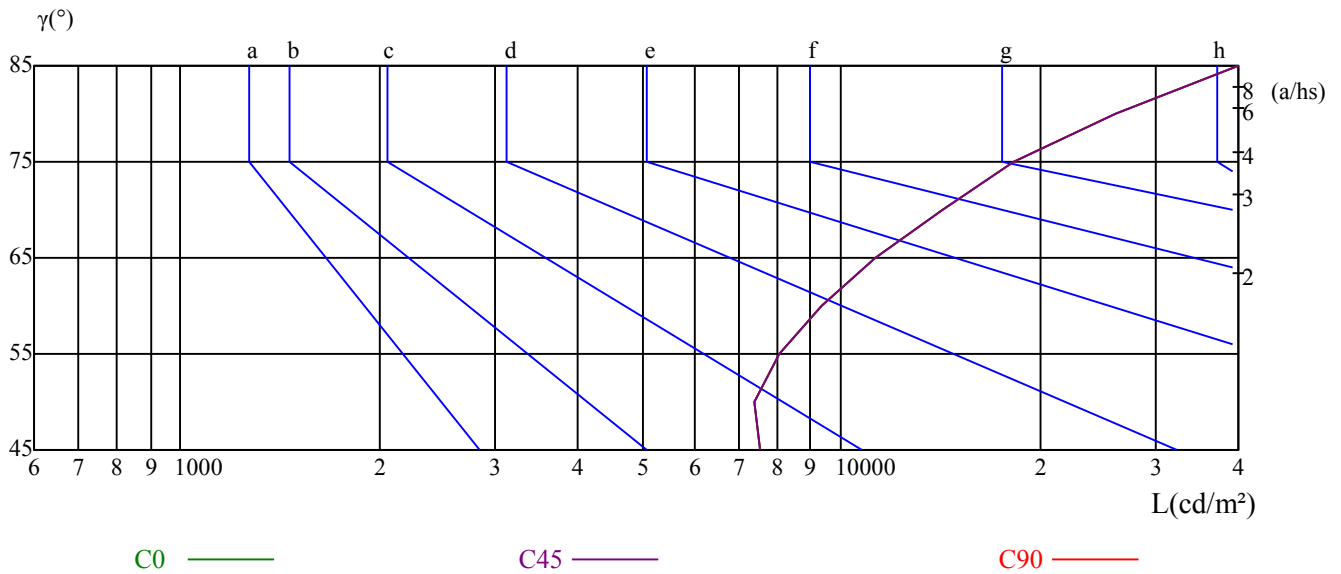
γ	45	50	55	60	65	70	75	80	85
C0	7558	7378	8057	9347	11308	14244	18261	26078	41436
C45	7558	7378	8057	9347	11308	14244	18261	26078	41436
C90	7558	7378	8057	9347	11308	14244	18261	26078	41436

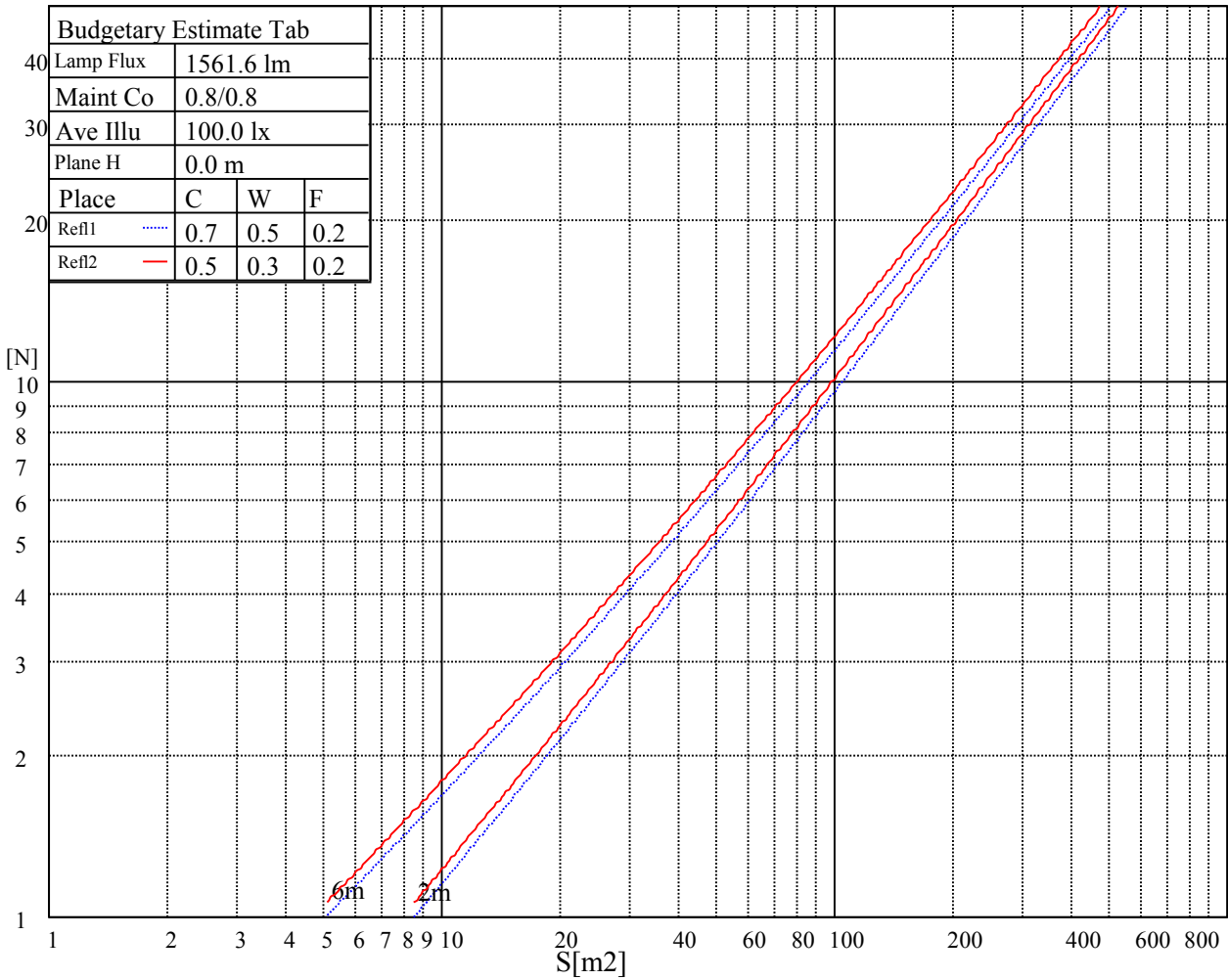
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11308	11308	11308	18261	18261	18261	41436	41436	41436

Glare Table

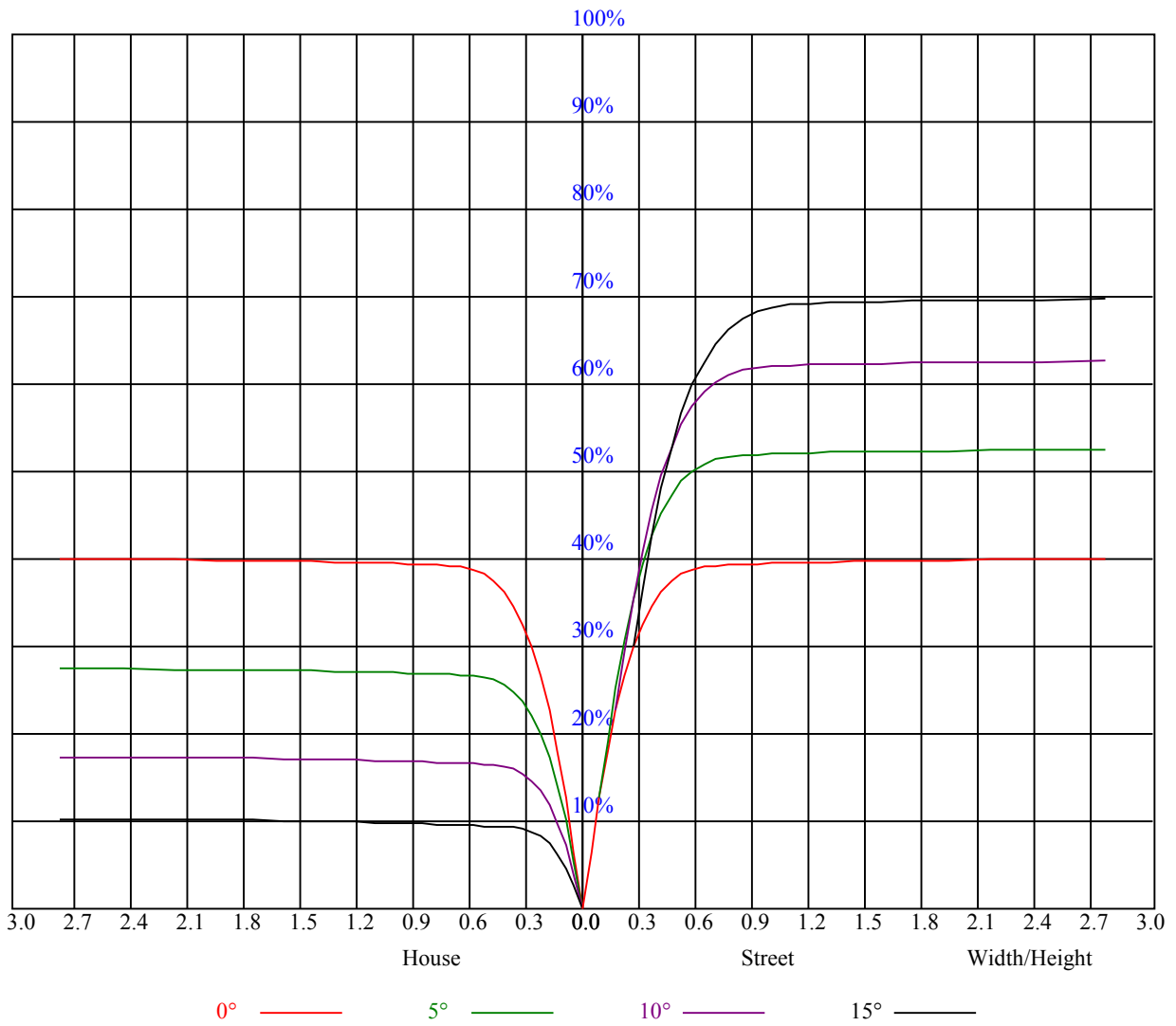
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.96	0.96	0.96	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.81
1	0.90	0.89	0.87	0.89	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78	0.77
2	0.86	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.79	0.78	0.76	0.77	0.76	0.75	0.74
3	0.81	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.73	0.75	0.73	0.72	0.71
4	0.78	0.74	0.72	0.77	0.74	0.71	0.75	0.73	0.70	0.74	0.71	0.70	0.72	0.70	0.69	0.68
5	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.65
6	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.63
7	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.61
8	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.60	0.59
9	0.64	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.57
10	0.62	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.55



Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	5217.62	5219.42	5125.01	4988.17	4795.77	4528.67	4238.87	3999.26	3662.26
45.0	5175.80	5096.32	4940.97	4739.00	4486.85	4225.13	3915.01	3612.66	3349.75
90.0	5218.22	5153.09	5006.10	4798.76	4565.12	4271.14	3954.45	3668.83	3358.11
135.0	5248.10	5252.28	5137.55	4973.83	4776.65	4495.81	4173.74	3891.11	3578.00
180.0	5217.62	5129.19	4979.81	4758.72	4515.53	4215.57	3888.12	3607.28	3291.79
225.0	5181.77	5193.12	5130.38	4951.13	4771.27	4534.65	4233.49	3924.57	3649.71
270.0	5218.22	5214.04	5109.47	4958.30	4767.68	4461.75	4191.07	3913.81	3597.72
315.0	5248.10	5172.21	5004.90	4813.69	4582.45	4260.38	3978.35	3701.09	3364.69
360.0	5217.62	5219.42	5125.01	4988.17	4795.77	4528.67	4238.87	3999.26	3662.26
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3367.08	3153.16	2860.97	2641.68	2431.94	2182.77	2001.72	1830.23	1639.62
45.0	3067.12	2799.42	2574.15	2365.02	2118.24	1940.18	1777.05	1606.76	1449.01
90.0	3085.64	2803.01	2542.49	2323.19	2113.46	1880.42	1710.73	1550.59	1373.72
135.0	3261.31	2991.83	2715.77	2487.51	2247.31	2020.25	1851.14	1687.42	1496.81
180.0	3028.87	2761.18	2516.19	2307.66	2114.06	1897.75	1735.22	1584.65	1408.97
225.0	3374.25	3050.98	2801.81	2569.37	2323.79	2097.33	1916.87	1730.44	1558.36
270.0	3292.38	3030.67	2751.02	2518.58	2271.81	2044.74	1858.32	1688.02	1493.82
315.0	3131.05	2856.19	2565.79	2373.98	2167.24	1912.09	1765.10	1608.55	1417.94
360.0	3367.08	3153.16	2860.97	2641.68	2431.94	2182.77	2001.72	1830.23	1639.62
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1500.40	1372.52	1222.54	1117.38	1018.19	913.02	816.82	738.55	657.28
45.0	1319.34	1190.28	1083.92	979.95	873.59	792.92	712.25	627.41	551.52
90.0	1180.48	1123.59	1006.18	900.77	810.97	722.53	648.38	571.00	492.84
135.0	1356.39	1236.29	1105.43	996.68	902.27	806.66	726.60	654.89	573.03
180.0	1180.00	1166.08	1059.84	939.91	847.95	765.85	679.45	595.56	518.77
225.0	1422.12	1180.66	1167.81	1052.97	948.28	858.11	777.21	684.59	609.84
270.0	1356.39	1230.31	1095.27	994.29	902.87	807.26	721.22	645.93	574.23
315.0	1270.94	1189.62	1076.09	972.24	884.28	802.18	722.05	641.63	570.10
360.0	1500.40	1372.52	1222.54	1117.38	1018.19	913.02	816.82	738.55	657.28
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	579.01	490.57	409.31	341.79	302.95	205.25	152.55	108.21	66.15
45.0	465.48	386.00	325.06	302.35	190.49	140.12	95.90	59.93	40.33
90.0	429.98	355.17	285.80	229.75	180.81	129.42	93.87	64.95	42.42
135.0	499.53	423.65	348.96	308.92	215.47	158.94	115.26	77.68	48.64
180.0	434.76	356.96	292.13	226.10	172.21	119.74	79.35	54.61	38.18
225.0	532.04	440.32	372.98	312.75	247.74	188.04	137.37	88.08	55.09
270.0	497.14	421.86	354.93	308.32	224.07	174.18	127.99	91.36	58.08
315.0	489.44	411.52	347.04	277.43	221.38	163.90	111.20	71.82	42.90
360.0	579.01	490.57	409.31	341.79	302.95	205.25	152.55	108.21	66.15
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	44.58	31.91	25.99	18.76	13.38	12.37	11.59	10.93	10.46
45.0	31.43	24.62	15.77	13.27	12.25	11.47	10.76	10.16	9.68
90.0	33.58	27.55	19.54	14.82	13.68	12.67	12.01	11.47	11.05
135.0	36.63	31.01	23.78	14.88	13.62	12.67	11.65	11.05	10.52
180.0	31.37	25.34	16.19	12.73	11.71	10.99	10.28	9.68	9.26
225.0	38.90	30.06	24.92	16.37	12.91	11.95	11.17	10.40	9.86
270.0	39.50	30.77	24.68	16.73	14.16	13.15	12.13	11.65	11.11
315.0	32.03	26.83	20.02	13.98	13.03	12.19	11.41	10.76	10.28
360.0	44.58	31.91	25.99	18.76	13.38	12.37	11.59	10.93	10.46

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	10.22	9.98	9.80	9.74	9.80	9.92	9.98	10.04	10.04
45.0	9.26	8.84	8.60	8.48	8.37	8.37	8.37	8.37	8.43
90.0	10.70	10.40	10.10	9.80	9.56	9.32	9.08	8.84	8.66
135.0	10.04	9.56	9.20	8.90	8.60	8.43	8.25	8.19	8.07
180.0	8.84	8.60	8.37	8.19	8.07	7.95	7.83	7.77	7.71
225.0	9.32	8.84	8.48	8.19	7.95	7.83	7.65	7.65	7.59
270.0	10.82	10.64	10.46	9.80	9.38	9.20	9.56	9.20	8.84
315.0	9.86	9.56	9.38	9.20	9.14	9.14	9.20	9.32	9.38
360.0	10.22	9.98	9.80	9.74	9.80	9.92	9.98	10.04	10.04
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.04	10.10	10.16	10.16	10.22	10.34	10.40	10.52	10.58
45.0	8.43	8.60	8.66	8.78	8.96	9.20	9.32	9.38	9.44
90.0	8.37	8.25	8.13	8.01	7.89	7.89	7.83	7.77	7.71
135.0	8.01	8.01	7.95	7.89	7.89	7.89	7.89	7.89	7.83
180.0	7.59	7.59	7.47	7.41	7.41	7.35	7.35	7.35	7.35
225.0	7.59	7.59	7.59	7.65	7.65	7.65	7.65	7.71	7.71
270.0	8.84	8.60	8.66	8.43	8.43	8.48	8.31	8.43	8.54
315.0	9.50	9.62	9.74	9.92	10.10	10.22	10.40	10.52	10.58
360.0	10.04	10.10	10.16	10.16	10.22	10.34	10.40	10.52	10.58
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	10.70	10.76	10.70	10.76	10.82	10.88	10.82	10.76	10.64
45.0	9.56	9.56	9.56	9.62	9.68	9.68	9.68	9.68	9.68
90.0	7.71	7.77	7.77	7.77	7.77	7.77	7.83	7.83	7.89
135.0	7.83	7.83	7.83	7.77	7.77	7.71	7.65	7.59	7.59
180.0	7.41	7.41	7.35	7.35	7.29	7.29	7.23	7.17	7.11
225.0	7.71	7.71	7.71	7.71	7.71	7.71	7.65	7.65	7.65
270.0	8.78	8.60	8.90	9.20	9.32	9.38	9.68	9.80	9.62
315.0	10.70	10.76	10.88	10.99	11.05	11.23	11.41	11.59	11.65
360.0	10.70	10.76	10.70	10.76	10.82	10.88	10.82	10.76	10.64
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	10.58	10.46	10.34	10.22	10.28	10.22	10.10	9.98	9.80
45.0	9.62	9.56	9.50	9.44	9.38	9.20	9.14	8.84	8.60
90.0	7.83	7.83	7.53	7.35	7.11	7.05	6.81	6.81	6.93
135.0	7.47	7.47	7.41	7.35	7.29	7.29	7.17	7.11	7.05
180.0	7.05	6.93	6.93	6.87	6.81	6.81	6.75	6.75	6.69
225.0	7.59	7.53	7.47	7.41	7.41	7.35	7.29	7.17	7.17
270.0	10.04	10.40	9.44	9.50	9.32	10.70	9.92	8.48	9.50
315.0	11.71	11.77	11.77	11.77	11.83	11.71	11.59	11.41	11.23
360.0	10.58	10.46	10.34	10.22	10.28	10.22	10.10	9.98	9.80
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.56	9.20	8.66	7.95	7.53	7.47	6.57	5.74	5.62
45.0	8.25	7.95	7.77	7.71	6.09	5.80	5.74	5.68	5.62
90.0	6.99	7.05	6.93	6.21	5.80	5.68	5.62	5.56	5.50
135.0	6.99	6.93	6.87	6.69	5.74	5.68	5.62	5.56	5.56
180.0	6.63	6.63	6.57	5.86	5.68	5.62	5.62	5.56	5.44
225.0	7.11	7.11	7.05	7.05	6.99	6.15	5.80	5.74	5.68
270.0	9.20	8.19	8.31	7.35	7.65	7.35	5.86	5.68	5.62
315.0	10.82	10.04	8.78	7.95	7.95	7.95	5.80	5.62	5.56
360.0	9.56	9.20	8.66	7.95	7.53	7.47	6.57	5.74	5.62

Intensity data(cd)

C/γ(°)	90.0
0.0	5.62
45.0	5.56
90.0	5.56
135.0	5.50
180.0	5.50
225.0	5.68
270.0	5.56
315.0	5.44
360.0	5.62