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Nata

LumCAT: 1-0936-N	
Luminaire: 92.361.000	
Report No: 220519-B007	Voltage(V): 38.1700
Test No: 220519-C007	Current(A): 0.3610
LampCAT: CREE CXA1507	Power (W): 13.7790
Lamp flux(lm): 1272.8	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): 1036.14
Efficiency(%): 81.41%
Lumens(lm)/Power(W): 75.20
Central intensity(cd): 4583.048
Maximum intensity(cd): 4583.048
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=23.0
 [C90/270]Total=23.0
Field angle(10%Imax): [C0/180]Total=49.3
 [C90/270]Total=49.3
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
Maximum s/h(1/4): C0_180=0.41 C90_270=0.41
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 81.41%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.057%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4583.047	0.000	0	.000%	.000%
1.0	4559.146	4.374	4.374	.344%	.422%
2.0	4472.131	12.963	17.337	1.018%	1.673%
3.0	4343.065	21.083	38.42	1.656%	3.708%
4.0	4184.944	28.546	66.966	2.243%	6.463%
5.0	3964.306	35.058	102.024	2.754%	9.846%
6.0	3738.216	40.479	142.502	3.180%	13.753%
7.0	3491.063	44.872	187.374	3.526%	18.084%
8.0	3229.794	48.100	235.474	3.779%	22.726%
9.0	2952.017	50.100	285.575	3.936%	27.561%
10.0	2684.250	51.006	336.581	4.007%	32.484%
11.0	2412.971	50.932	387.512	4.002%	37.399%
12.0	2166.491	50.060	437.572	3.933%	42.231%
13.0	1926.882	48.578	486.15	3.817%	46.919%
14.0	1687.795	46.268	532.418	3.635%	51.385%
15.0	1499.200	43.752	576.171	3.438%	55.607%
16.0	1298.595	40.996	617.166	3.221%	59.564%
17.0	1159.453	38.278	655.444	3.007%	63.258%
18.0	1035.353	36.188	691.632	2.843%	66.751%
19.0	929.456	34.184	725.816	2.686%	70.050%
20.0	818.831	31.999	757.814	2.514%	73.138%
21.0	731.278	29.765	787.579	2.339%	76.011%
22.0	656.916	27.896	815.476	2.192%	78.703%
23.0	578.722	25.927	841.403	2.037%	81.205%
24.0	506.436	23.725	865.128	1.864%	83.495%
25.0	434.964	21.405	886.534	1.682%	85.561%
26.0	362.849	18.832	905.366	1.480%	87.378%
27.0	294.515	16.083	921.449	1.264%	88.931%
28.0	243.971	13.633	935.082	1.071%	90.246%
29.0	173.799	10.930	946.012	.859%	91.301%
30.0	129.738	8.195	954.207	.644%	92.092%
31.0	95.403	6.265	960.473	.492%	92.697%
32.0	68.275	4.689	965.162	.368%	93.149%
33.0	55.077	3.634	968.796	.286%	93.500%
34.0	48.273	3.128	971.924	.246%	93.802%
35.0	44.800	2.890	974.814	.227%	94.081%
36.0	42.074	2.766	977.58	.217%	94.348%
37.0	39.736	2.668	980.248	.210%	94.605%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	37.196	2.568	982.816	.202%	94.853%
39.0	34.948	2.462	985.279	.193%	95.091%
40.0	32.745	2.361	987.64	.185%	95.319%
41.0	30.422	2.249	989.889	.177%	95.536%
42.0	28.330	2.135	992.024	.168%	95.742%
43.0	26.358	2.026	994.049	.159%	95.937%
44.0	24.588	1.923	995.972	.151%	96.123%
45.0	22.781	1.820	997.793	.143%	96.299%
46.0	21.175	1.719	999.512	.135%	96.465%
47.0	19.554	1.620	1001.132	.127%	96.621%
48.0	18.232	1.528	1002.659	.120%	96.768%
49.0	16.932	1.444	1004.103	.113%	96.908%
50.0	15.678	1.360	1005.463	.107%	97.039%
51.0	14.587	1.280	1006.743	.101%	97.162%
52.0	13.616	1.210	1007.954	.095%	97.279%
53.0	12.742	1.147	1009.1	.090%	97.390%
54.0	11.988	1.090	1010.19	.086%	97.495%
55.0	11.473	1.047	1011.237	.082%	97.596%
56.0	10.927	1.012	1012.25	.080%	97.694%
57.0	10.479	0.979	1013.228	.077%	97.788%
58.0	10.068	0.950	1014.178	.075%	97.880%
59.0	9.717	0.925	1015.103	.073%	97.969%
60.0	9.389	0.903	1016.006	.071%	98.056%
61.0	9.105	0.883	1016.889	.069%	98.142%
62.0	8.851	0.865	1017.754	.068%	98.225%
63.0	8.604	0.849	1018.603	.067%	98.307%
64.0	8.380	0.833	1019.436	.065%	98.388%
65.0	8.149	0.818	1020.254	.064%	98.466%
66.0	7.925	0.802	1021.056	.063%	98.544%
67.0	7.716	0.786	1021.843	.062%	98.620%
68.0	7.521	0.772	1022.615	.061%	98.694%
69.0	7.327	0.758	1023.372	.060%	98.767%
70.0	7.155	0.744	1024.116	.058%	98.839%
71.0	6.961	0.730	1024.845	.057%	98.910%
72.0	6.752	0.713	1025.558	.056%	98.978%
73.0	6.573	0.697	1026.255	.055%	99.046%
74.0	6.401	0.682	1026.937	.054%	99.111%
75.0	6.229	0.667	1027.605	.052%	99.176%

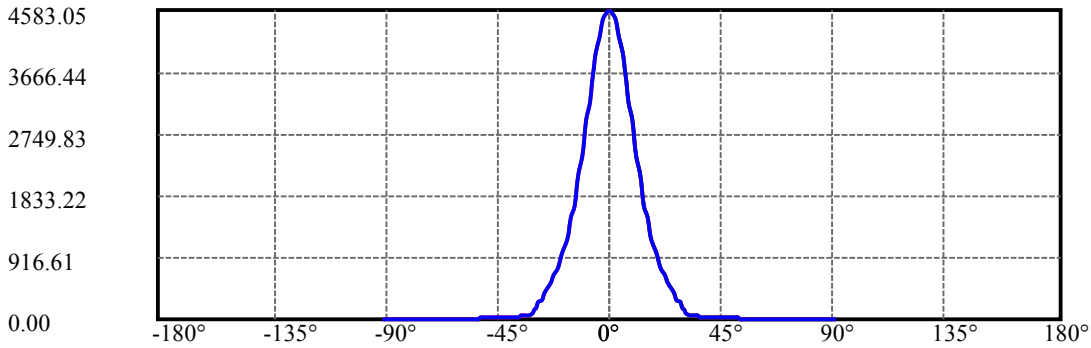
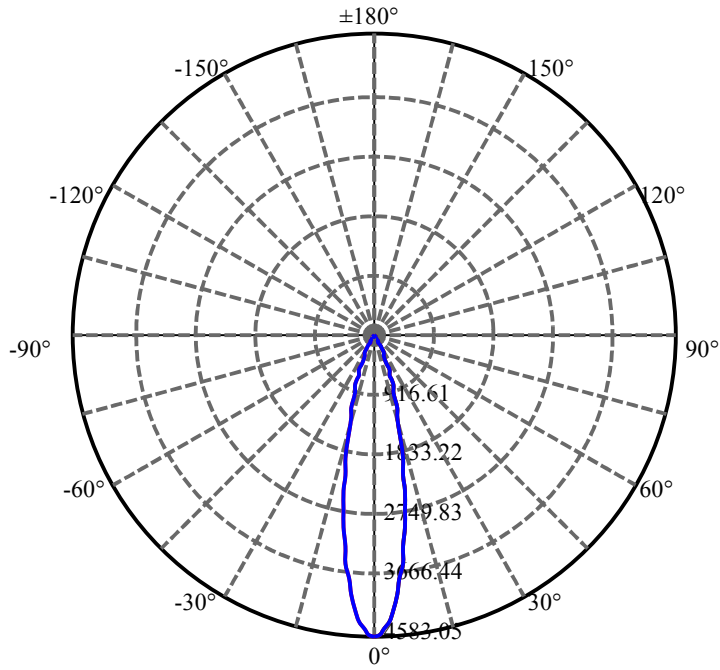
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.087	0.654	1028.259	.051%	99.239%
77.0	5.938	0.641	1028.9	.050%	99.301%
78.0	5.781	0.627	1029.527	.049%	99.361%
79.0	5.647	0.614	1030.141	.048%	99.421%
80.0	5.512	0.602	1030.743	.047%	99.479%
81.0	5.378	0.589	1031.331	.046%	99.536%
82.0	5.281	0.578	1031.909	.045%	99.591%
83.0	5.191	0.569	1032.479	.045%	99.646%
84.0	5.139	0.563	1033.041	.044%	99.701%
85.0	5.072	0.557	1033.599	.044%	99.754%
86.0	4.803	0.540	1034.138	.042%	99.806%
87.0	4.676	0.519	1034.657	.041%	99.857%
88.0	4.541	0.505	1035.162	.040%	99.905%
89.0	4.467	0.494	1035.656	.039%	99.953%
90.0	4.437	0.488	1036.144	.038%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	954.21	74.97%	92.09%
0-40	987.64	77.60%	95.32%
0-60	1016.01	79.83%	98.06%
0-90	1035.66	81.37%	99.95%
0-120	1035.66	81.37%	99.95%
0-180	1036.14	81.41%	100.00%
60-90	20.55	1.61%	1.98%
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%
0-22.52	828.92	65.13%	80.00%

ZONAL LUMEN SUMMARY

0-10	336.58
10-20	421.23
20-30	196.39
30-40	33.43
40-50	17.82
50-60	10.54
60-70	8.11
70-80	6.63
80-90	4.91
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: —————

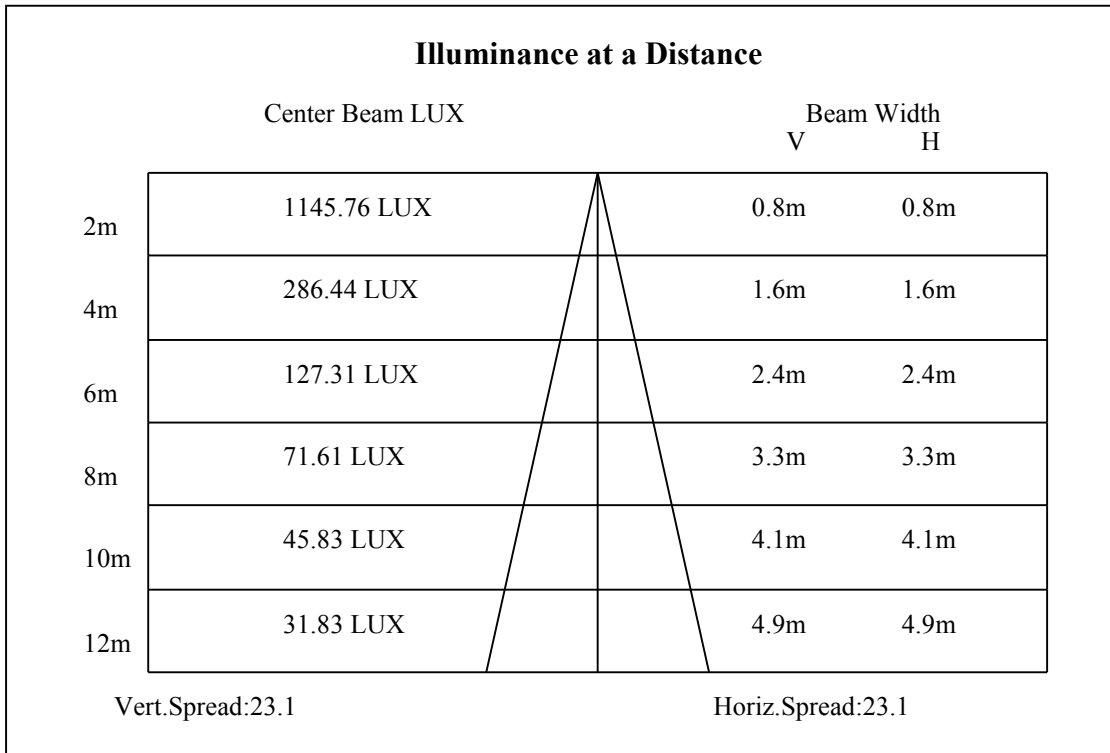
C90/C270: —————

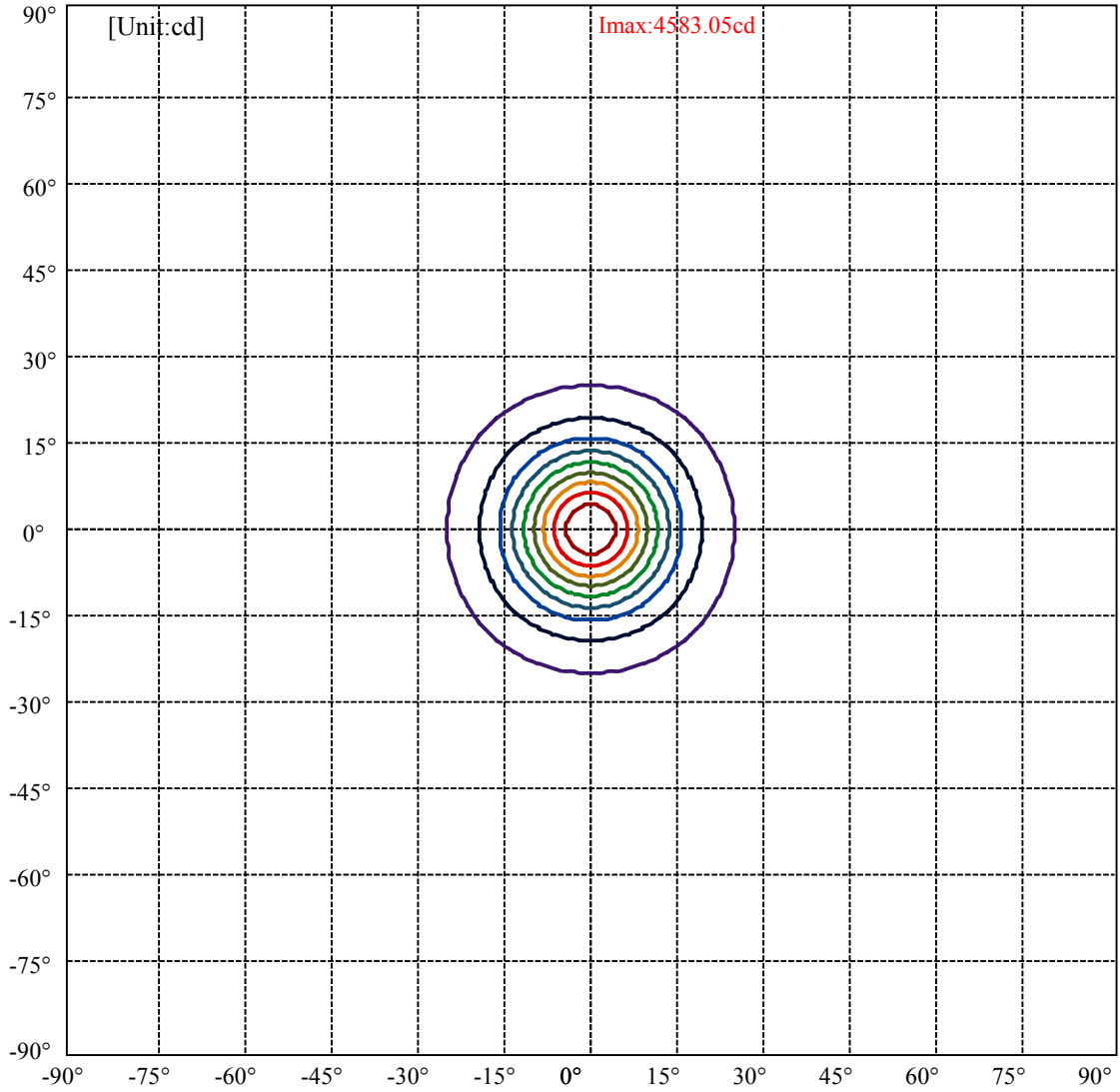
Field angle(10%Imax):C0/180Left:24.7 Right:24.7

:C90/270Left:24.7 Right:24.7

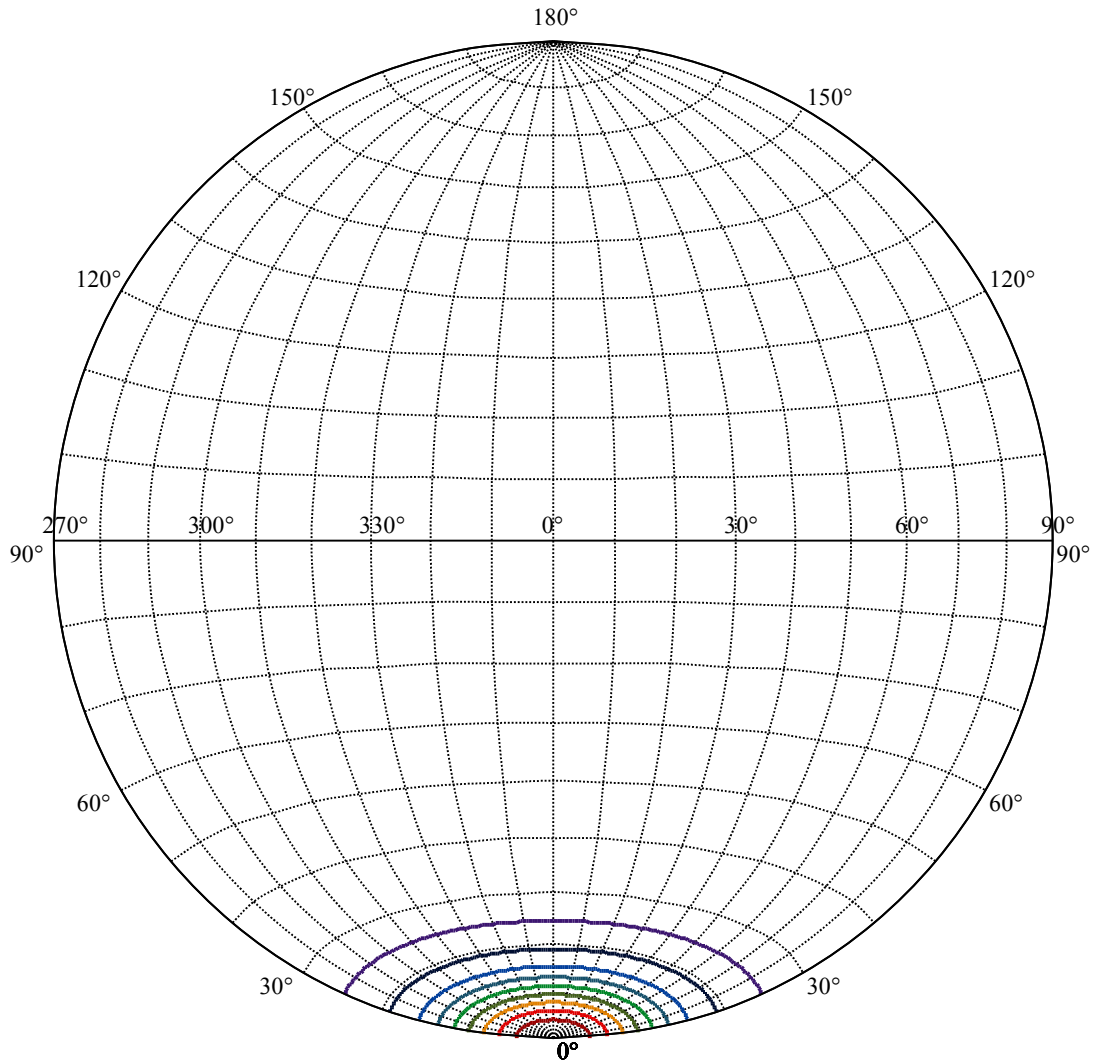
Beam Angle(50%Imax):C0/180Left:11.5 Right:11.5

:C90/270Left:11.5 Right:11.5





(10%Imax) 458.305	—
(20%Imax) 916.61	—
(30%Imax) 1374.91	—
(40%Imax) 1833.22	—
(50%Imax) 2291.52	—
(60%Imax) 2749.83	—
(70%Imax) 3208.13	—
(80%Imax) 3666.44	—
(90%Imax) 4124.74	—



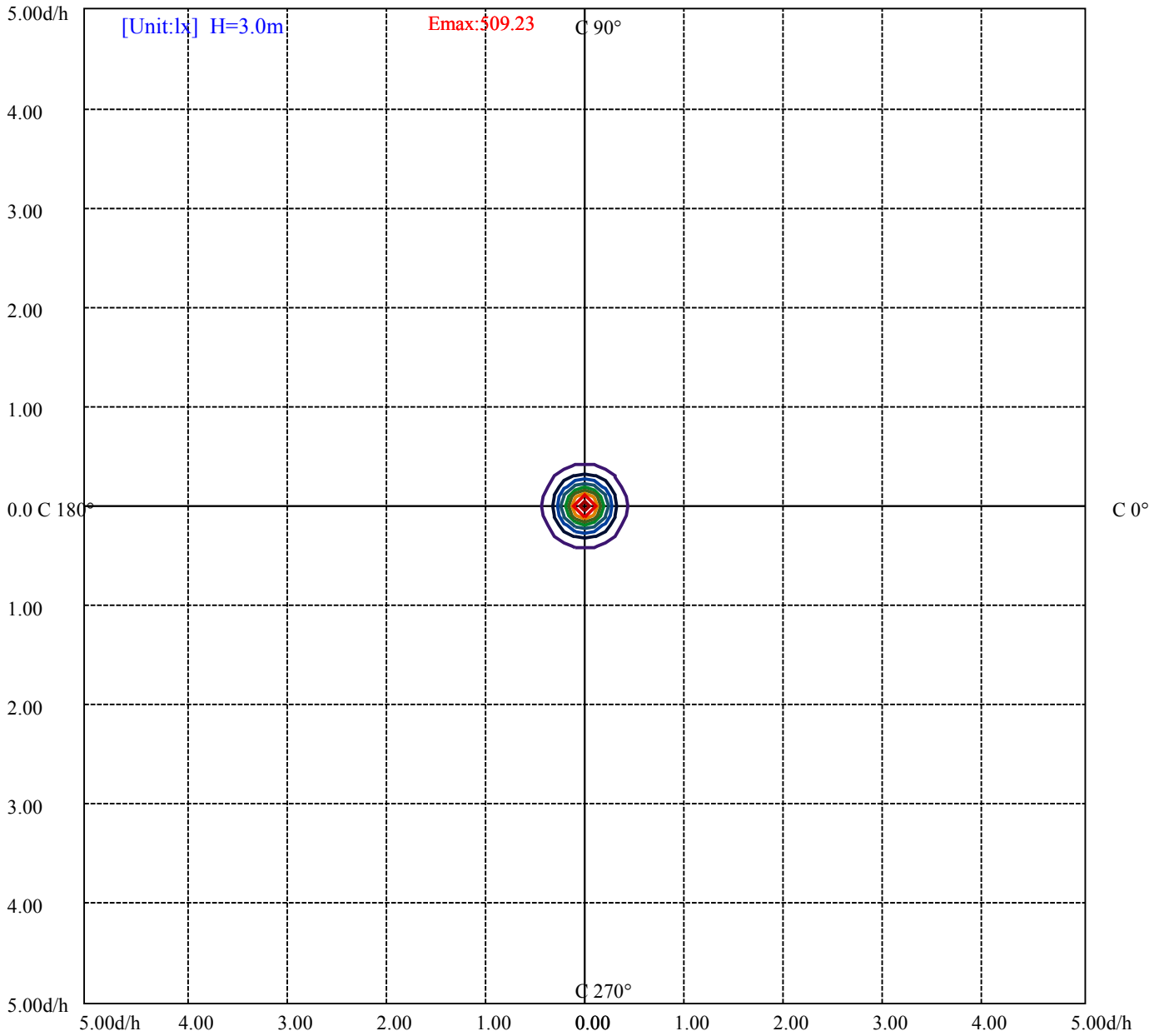
House

[Unit:cd]

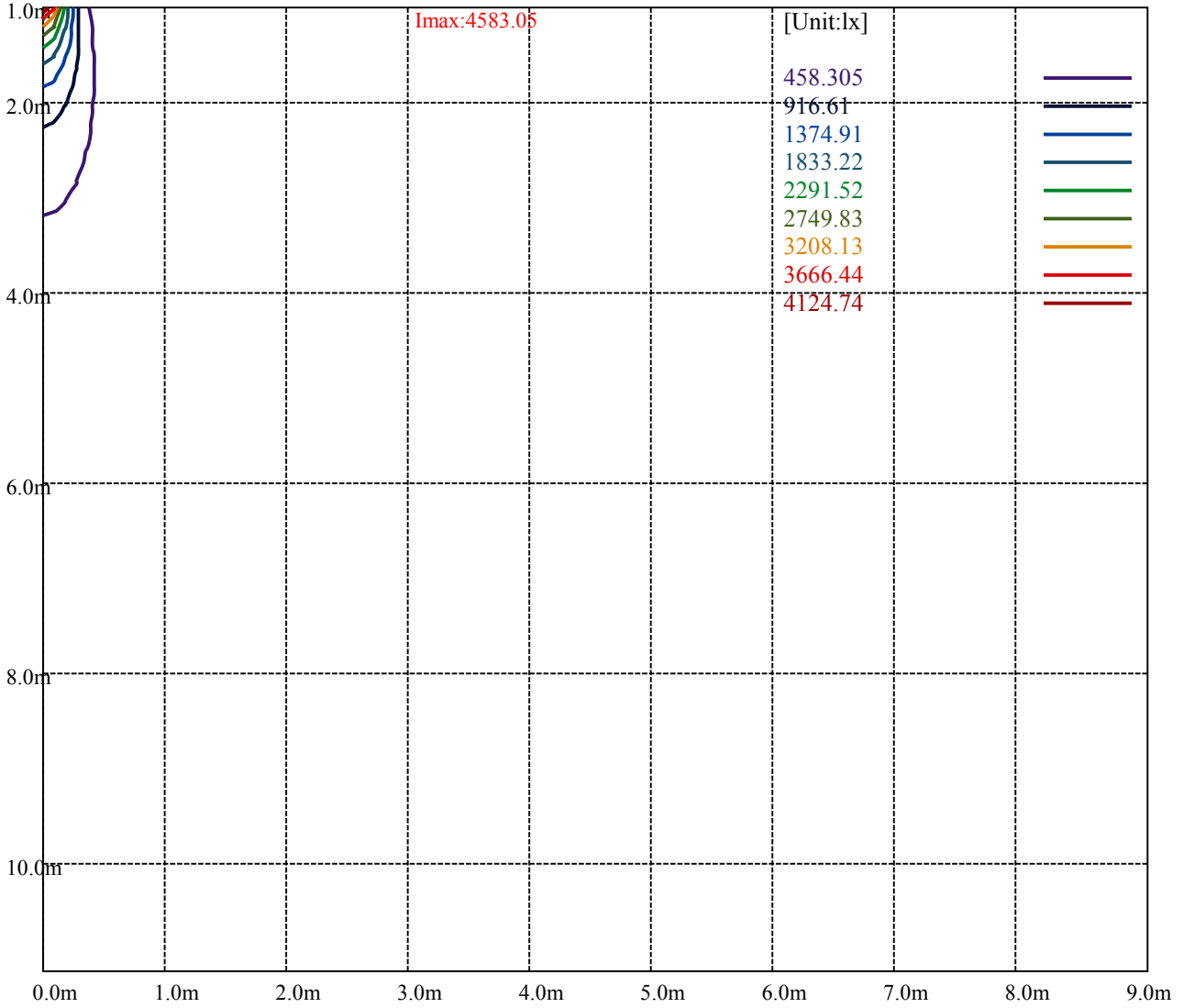
Road

Imax:4583.05

(10%Imax) 458.305	—
(20%Imax) 916.61	—
(30%Imax) 1374.91	—
(40%Imax) 1833.22	—
(50%Imax) 2291.52	—
(60%Imax) 2749.83	—
(70%Imax) 3208.13	—
(80%Imax) 3666.44	—
(90%Imax) 4124.74	—



- (10%E_{max}) 50.92266
- (20%E_{max}) 101.8454
- (30%E_{max}) 152.7678
- (40%E_{max}) 203.6911
- (50%E_{max}) 254.6133
- (60%E_{max}) 305.5367
- (70%E_{max}) 356.4589
- (80%E_{max}) 407.3822
- (90%E_{max}) 458.3045



Luminance Table

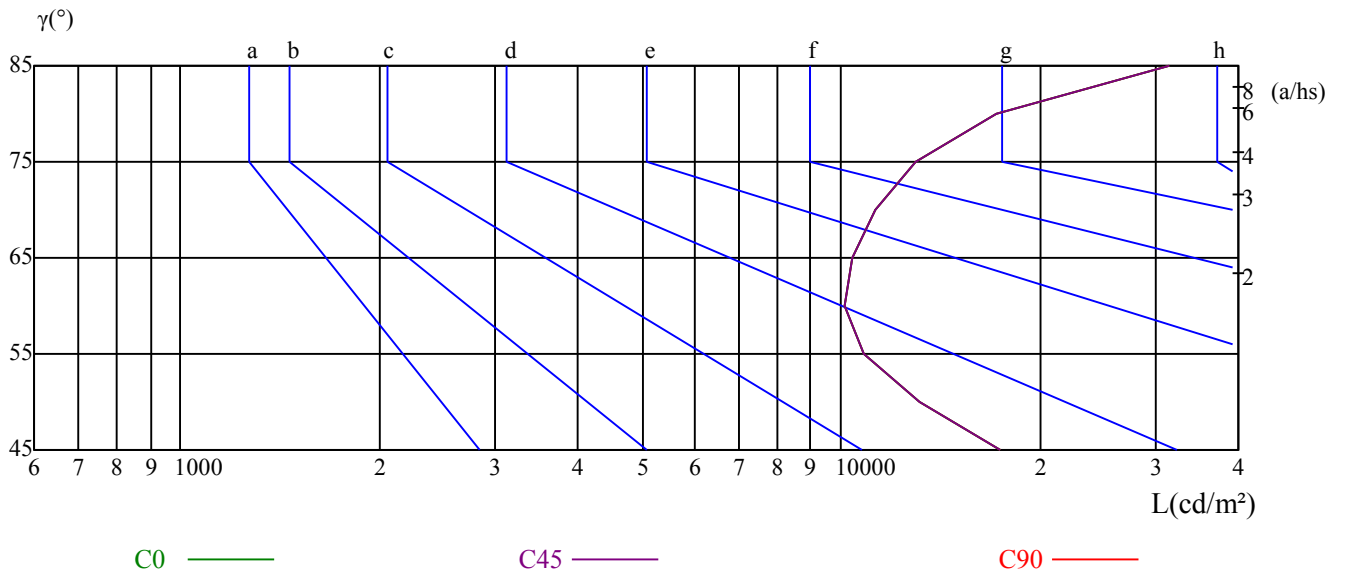
γ	45	50	55	60	65	70	75	80	85
C0	17424	13191	10818	10155	10428	11315	13017	17168	31471
C45	17424	13191	10818	10155	10428	11315	13017	17168	31471
C90	17424	13191	10818	10155	10428	11315	13017	17168	31471

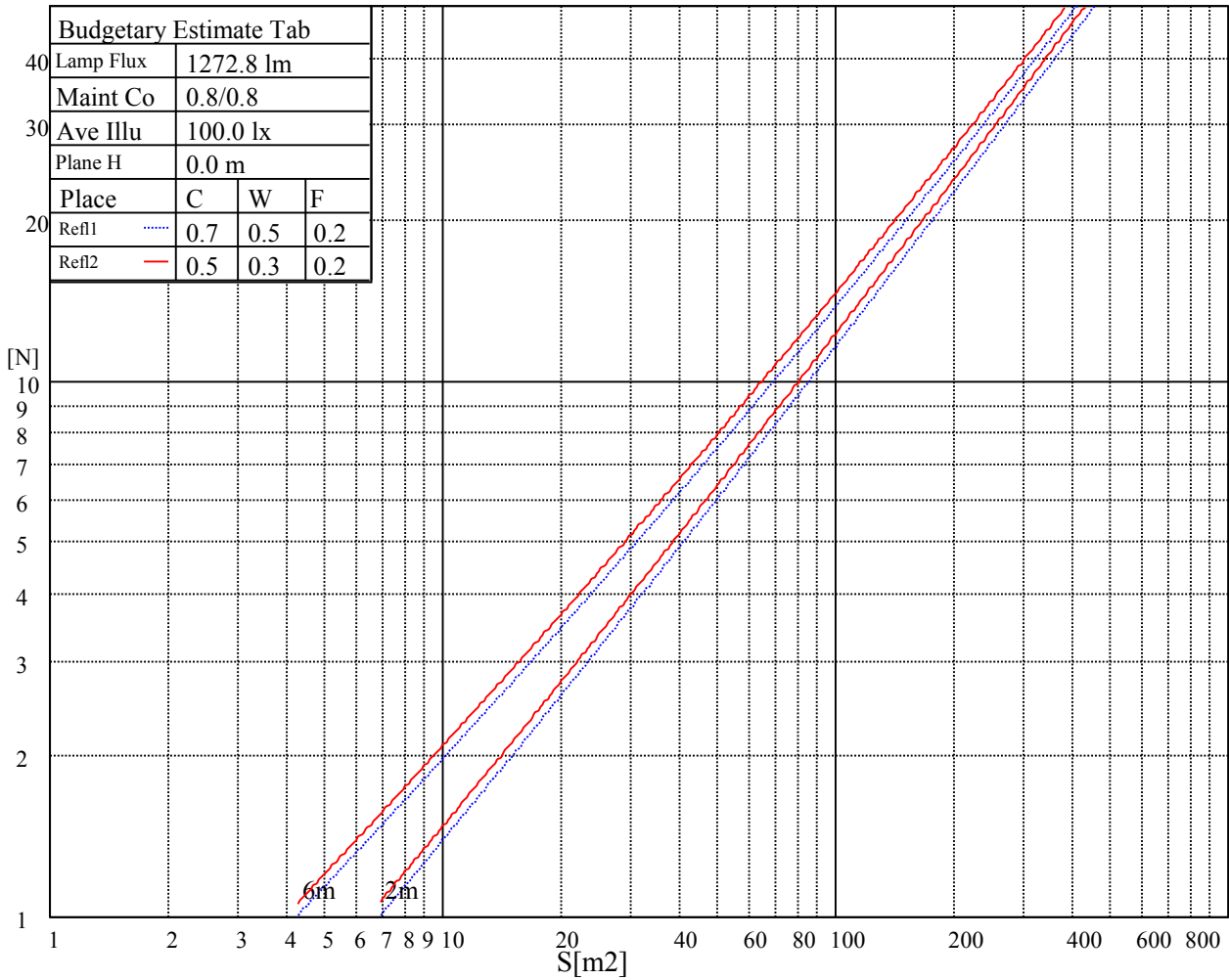
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
10428	10428	10428	13017	13017	13017	31471	31471	31471

Glare Table

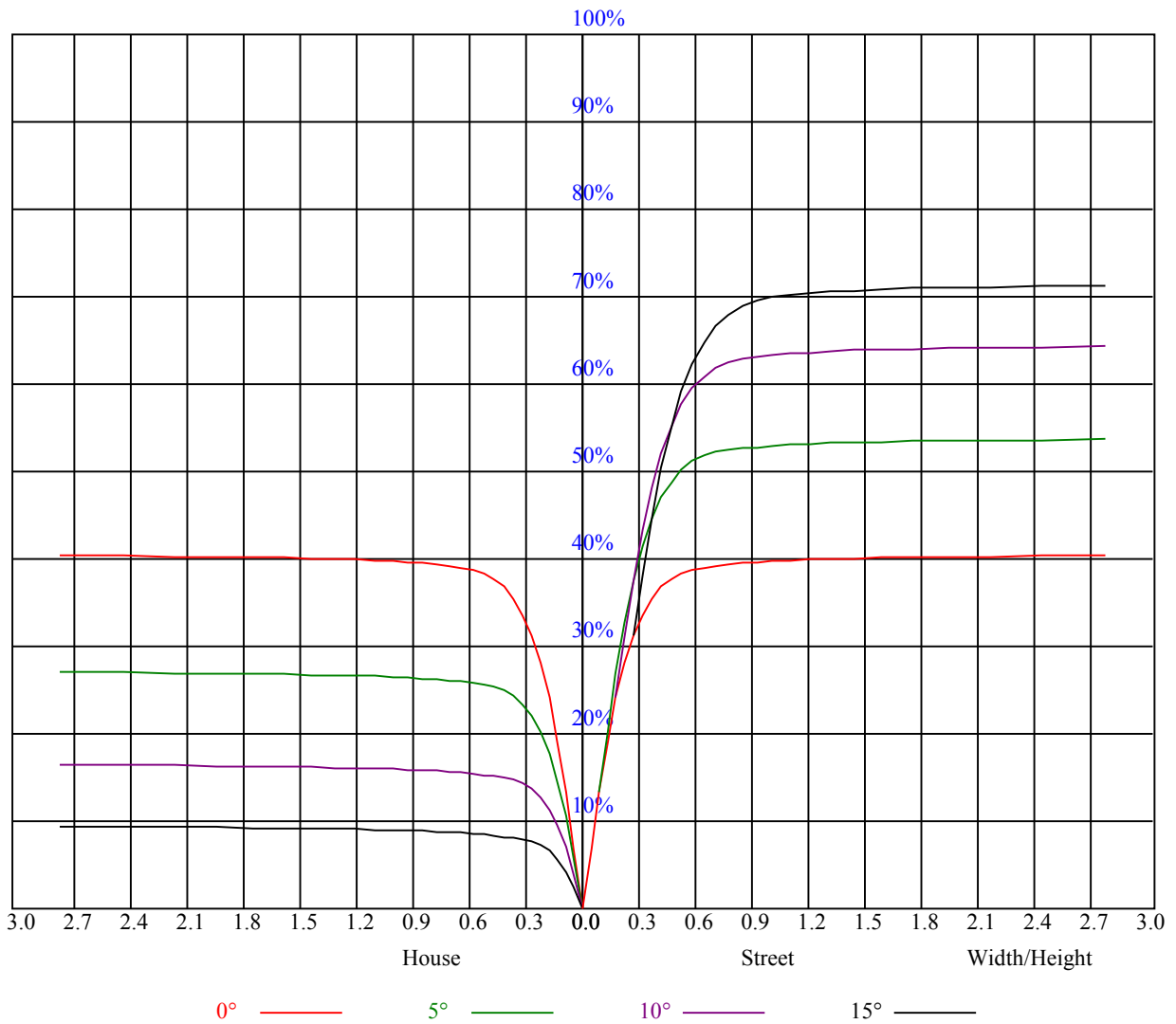
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.97	0.97	0.97	0.95	0.95	0.95	0.90	0.90	0.90	0.87	0.87	0.87	0.83	0.83	0.83	0.81
1	0.91	0.90	0.88	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.79	0.78
2	0.86	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.79	0.80	0.79	0.77	0.78	0.77	0.76	0.74
3	0.82	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.77	0.75	0.74	0.76	0.74	0.73	0.71
4	0.79	0.75	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.75	0.73	0.71	0.73	0.71	0.70	0.69
5	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.67	0.66
6	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.64
7	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.67	0.65	0.63	0.62
8	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.60
9	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.58	0.57



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	4578.86	4587.23	4526.88	4430.68	4260.98	4057.22	3851.07	3593.54	3365.28
45.0	4569.30	4503.58	4363.75	4216.16	4033.32	3773.99	3545.14	3307.32	3035.45
90.0	4580.66	4518.51	4403.79	4238.87	4060.21	3822.99	3592.34	3325.25	3074.88
135.0	4603.36	4595.60	4502.98	4400.80	4274.12	4018.98	3795.50	3595.33	3293.58
180.0	4578.86	4528.67	4431.28	4257.99	4082.32	3874.38	3613.26	3337.80	3083.25
225.0	4569.30	4582.45	4534.05	4436.06	4305.79	4115.18	3915.61	3663.45	3393.37
270.0	4580.66	4592.61	4534.65	4442.63	4307.59	4093.67	3885.13	3660.46	3392.17
315.0	4603.36	4564.52	4479.67	4321.33	4155.22	3958.03	3707.67	3445.35	3200.37
360.0	4578.86	4587.23	4526.88	4430.68	4260.98	4057.22	3851.07	3593.54	3365.28
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3097.59	2819.74	2569.37	2319.61	2026.22	1809.92	1612.13	1391.65	1239.28
45.0	2752.82	2496.48	2218.63	1989.77	1754.35	1541.03	1377.90	1218.96	1075.55
90.0	2789.86	2507.83	2240.14	2008.89	1796.77	1556.56	1389.25	1184.42	1088.28
135.0	3007.36	2783.89	2468.99	2225.80	1993.36	1727.46	1539.83	1371.33	1189.08
180.0	2795.24	2510.82	2267.03	2011.28	1793.78	1573.29	1382.08	1179.76	1098.80
225.0	3145.39	2860.37	2576.55	2329.77	2092.55	1812.31	1615.12	1437.06	1184.54
270.0	3108.35	2856.79	2573.56	2332.16	2066.26	1821.27	1619.30	1418.53	1245.85
315.0	2919.53	2638.09	2389.52	2114.66	1891.78	1660.53	1457.97	1187.05	1154.25
360.0	3097.59	2819.74	2569.37	2319.61	2026.22	1809.92	1612.13	1391.65	1239.28
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1110.21	996.08	872.39	782.76	704.49	620.24	552.12	482.80	404.53
45.0	963.81	866.42	754.08	677.60	608.88	525.23	452.33	381.82	318.48
90.0	960.41	863.19	763.46	690.21	615.69	536.04	467.09	391.26	324.52
135.0	1063.60	954.25	831.16	745.12	667.44	587.97	519.25	449.94	375.25
180.0	957.84	860.14	769.44	674.37	608.88	542.32	454.00	387.80	322.90
225.0	1105.97	993.27	870.78	783.72	704.07	619.16	559.82	480.77	395.27
270.0	1114.39	996.68	874.18	785.15	705.08	622.63	553.31	487.58	409.31
315.0	1006.60	905.61	815.15	711.30	640.79	576.20	493.56	417.73	352.54
360.0	1110.21	996.08	872.39	782.76	704.49	620.24	552.12	482.80	404.53
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	329.24	304.14	201.85	156.55	114.85	82.82	64.11	53.84	49.24
45.0	265.72	188.28	147.53	101.94	73.85	59.45	51.75	47.62	45.11
90.0	255.26	193.78	142.51	106.72	79.29	58.32	51.03	47.15	44.52
135.0	302.95	265.30	178.90	135.16	95.72	66.15	52.82	46.25	42.84
180.0	248.75	199.57	145.80	98.71	74.63	54.49	45.29	42.36	40.27
225.0	338.44	276.00	200.53	159.54	118.19	76.48	59.75	49.18	44.22
270.0	334.02	301.75	204.65	157.21	114.37	81.50	61.43	50.25	45.89
315.0	281.73	222.94	168.62	122.08	92.32	66.98	54.43	49.54	46.31
360.0	329.24	304.14	201.85	156.55	114.85	82.82	64.11	53.84	49.24
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	46.43	43.86	40.33	38.12	35.85	32.74	30.71	28.74	26.47
45.0	42.13	39.56	37.11	34.42	32.21	29.88	27.49	25.69	24.14
90.0	41.47	39.08	36.87	34.30	31.85	29.76	27.55	25.51	23.90
135.0	40.81	38.90	35.91	34.30	32.39	29.70	27.84	25.99	23.96
180.0	37.47	35.61	33.94	31.85	29.40	27.84	25.93	24.02	22.65
225.0	41.47	39.20	36.87	34.72	32.80	30.47	28.62	26.59	24.86
270.0	43.32	40.87	38.06	35.91	33.94	31.67	29.34	27.43	25.63
315.0	43.50	40.81	38.48	35.97	33.52	31.31	29.16	26.89	25.10
360.0	46.43	43.86	40.33	38.12	35.85	32.74	30.71	28.74	26.47

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	24.74	23.12	20.97	19.66	18.22	16.67	15.60	14.52	13.32
45.0	21.75	20.32	19.06	17.45	16.13	15.06	13.86	12.91	12.19
90.0	21.81	20.32	18.94	17.51	16.19	15.12	13.86	12.97	12.25
135.0	22.47	20.79	19.06	17.99	16.67	15.36	14.46	13.44	12.43
180.0	20.97	19.42	18.22	16.91	15.77	14.76	13.62	12.79	12.13
225.0	23.36	21.75	19.90	18.76	17.51	16.07	15.12	14.22	13.38
270.0	23.78	22.11	20.44	19.06	17.75	16.43	15.36	14.40	13.38
315.0	23.36	21.57	19.84	18.52	17.21	15.95	14.82	13.68	12.85
360.0	24.74	23.12	20.97	19.66	18.22	16.67	15.60	14.52	13.32
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	12.55	12.01	11.29	10.88	10.46	10.04	9.68	9.32	9.02
45.0	11.53	11.05	10.52	10.10	9.74	9.44	9.14	8.90	8.66
90.0	11.53	10.99	10.52	10.10	9.74	9.38	9.14	8.84	8.60
135.0	11.71	11.23	10.64	10.22	9.86	9.50	9.14	8.90	8.66
180.0	11.41	10.93	10.52	10.16	9.74	9.38	9.08	8.84	8.60
225.0	12.49	12.01	11.47	10.93	10.46	10.04	9.74	9.44	9.14
270.0	12.55	12.01	11.41	10.88	10.46	10.16	9.74	9.44	9.20
315.0	12.13	11.53	11.05	10.58	10.10	9.80	9.44	9.14	8.90
360.0	12.55	12.01	11.29	10.88	10.46	10.04	9.68	9.32	9.02
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.78	8.48	8.25	8.07	7.83	7.59	7.41	7.23	6.99
45.0	8.43	8.19	7.95	7.77	7.53	7.35	7.17	6.99	6.81
90.0	8.37	8.13	7.89	7.65	7.47	7.35	7.17	6.99	6.75
135.0	8.43	8.25	8.01	7.83	7.59	7.41	7.23	7.05	6.87
180.0	8.43	8.25	7.95	7.77	7.53	7.35	7.17	6.99	6.81
225.0	8.90	8.72	8.48	8.25	8.07	7.83	7.59	7.41	7.23
270.0	8.90	8.60	8.48	8.19	7.95	7.77	7.53	7.41	7.23
315.0	8.60	8.43	8.19	7.89	7.77	7.53	7.35	7.17	6.99
360.0	8.78	8.48	8.25	8.07	7.83	7.59	7.41	7.23	6.99
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.81	6.63	6.45	6.27	6.15	5.98	5.80	5.68	5.50
45.0	6.63	6.45	6.27	6.09	5.98	5.80	5.62	5.50	5.38
90.0	6.51	6.39	6.21	6.09	5.92	5.74	5.56	5.44	5.32
135.0	6.75	6.57	6.33	6.15	6.04	5.86	5.74	5.62	5.50
180.0	6.57	6.39	6.27	6.09	5.92	5.74	5.62	5.50	5.38
225.0	7.05	6.81	6.63	6.45	6.27	6.15	5.98	5.80	5.68
270.0	6.93	6.75	6.57	6.39	6.21	6.09	5.92	5.74	5.56
315.0	6.75	6.57	6.45	6.27	6.21	6.15	6.04	5.92	5.80
360.0	6.81	6.63	6.45	6.27	6.15	5.98	5.80	5.68	5.50
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.32	5.20	5.08	5.02	4.84	4.78	4.72	4.54	4.48
45.0	5.20	5.08	5.02	4.96	4.84	4.72	4.66	4.48	4.48
90.0	5.20	5.14	5.08	5.02	4.84	4.72	4.60	4.48	4.42
135.0	5.44	5.38	5.26	5.26	4.96	4.84	4.66	4.54	4.42
180.0	5.26	5.26	5.14	5.02	4.90	4.72	4.54	4.42	4.36
225.0	5.50	5.38	5.32	5.20	5.14	5.02	4.84	4.72	4.60
270.0	5.44	5.26	5.20	5.08	4.96	4.90	4.72	4.60	4.54
315.0	5.68	5.56	5.44	5.56	6.09	4.72	4.66	4.54	4.42
360.0	5.32	5.20	5.08	5.02	4.84	4.78	4.72	4.54	4.48

Intensity data(cd)

C/ γ (°)	90.0
0.0	4.36
45.0	4.48
90.0	4.48
135.0	4.42
180.0	4.36
225.0	4.48
270.0	4.48
315.0	4.42
360.0	4.36