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Nata

LumCAT: 2-1745-N	
Luminaire: 92.70.132.00	
Report No: 200407-B029	Voltage(V): 220.4000
Test No: 200407-C029	Current(A): 0.0420
LampCAT: LUMILEDS LUXEON 1203	Power (W): 8.3100
Lamp flux(lm): 753.0	PF: 0.8970
Number of Lamps: 1	Ballast type: AC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 641.49
Efficiency(%): 85.19%
Lumens(lm)/Power(W): 77.19
Central intensity(cd): 4699.196
Maximum intensity(cd): 4699.196
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=13.0
 [C90/270]Total=13.0
Field angle(10%Imax): [C0/180]Total=37.1
 [C90/270]Total=37.1
Maximum s/h(1/2): C0_180=0.22 C90_270=0.22
Maximum s/h(1/4): C0_180=0.25 C90_270=0.25
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.19%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.261%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4699.197	0.000	0	.000%	.000%
1.0	4600.880	4.450	4.45	.591%	.694%
2.0	4330.406	12.819	17.269	1.702%	2.692%
3.0	3937.196	19.773	37.042	2.626%	5.774%
4.0	3471.365	24.799	61.841	3.293%	9.640%
5.0	2995.266	27.819	89.66	3.694%	13.977%
6.0	2550.664	29.145	118.806	3.871%	18.520%
7.0	2130.424	29.055	147.861	3.859%	23.050%
8.0	1783.269	28.010	175.871	3.720%	27.416%
9.0	1486.404	26.499	202.37	3.519%	31.547%
10.0	1213.413	24.432	226.802	3.245%	35.356%
11.0	1065.247	22.768	249.57	3.024%	38.905%
12.0	949.482	22.024	271.594	2.925%	42.338%
13.0	862.963	21.509	293.103	2.856%	45.691%
14.0	772.082	20.928	314.032	2.779%	48.954%
15.0	688.347	20.049	334.081	2.663%	52.079%
16.0	614.125	19.085	353.166	2.535%	55.054%
17.0	550.083	18.130	371.296	2.408%	57.880%
18.0	495.396	17.238	388.534	2.289%	60.568%
19.0	449.347	16.437	404.97	2.183%	63.130%
20.0	410.136	15.731	420.701	2.089%	65.582%
21.0	376.331	15.102	435.803	2.006%	67.936%
22.0	347.364	14.543	450.346	1.931%	70.203%
23.0	322.874	14.063	464.409	1.868%	72.396%
24.0	302.956	13.683	478.092	1.817%	74.529%
25.0	287.660	13.429	491.521	1.783%	76.622%
26.0	274.812	13.277	504.799	1.763%	78.692%
27.0	262.005	13.133	517.932	1.744%	80.739%
28.0	250.619	12.979	530.911	1.724%	82.762%
29.0	239.476	12.822	543.733	1.703%	84.761%
30.0	225.068	12.543	556.275	1.666%	86.717%
31.0	209.453	12.092	568.368	1.606%	88.602%
32.0	180.219	11.164	579.531	1.483%	90.342%
33.0	137.099	9.348	588.879	1.241%	91.799%
34.0	105.237	7.334	596.213	.974%	92.942%
35.0	75.927	5.626	601.84	.747%	93.819%
36.0	50.307	4.019	605.859	.534%	94.446%
37.0	35.835	2.809	608.668	.373%	94.884%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	28.167	2.136	610.805	.284%	95.217%
39.0	23.300	1.757	612.561	.233%	95.491%
40.0	19.658	1.498	614.06	.199%	95.724%
41.0	17.181	1.312	615.371	.174%	95.929%
42.0	15.209	1.177	616.548	.156%	96.112%
43.0	13.834	1.076	617.624	.143%	96.280%
44.0	12.622	0.999	618.622	.133%	96.436%
45.0	11.717	0.935	619.558	.124%	96.581%
46.0	10.974	0.887	620.445	.118%	96.720%
47.0	10.331	0.847	621.293	.113%	96.852%
48.0	9.797	0.814	622.106	.108%	96.979%
49.0	9.304	0.784	622.891	.104%	97.101%
50.0	8.828	0.756	623.647	.100%	97.219%
51.0	8.451	0.731	624.378	.097%	97.333%
52.0	8.138	0.712	625.09	.095%	97.444%
53.0	7.871	0.696	625.786	.092%	97.552%
54.0	7.674	0.685	626.471	.091%	97.659%
55.0	7.500	0.677	627.148	.090%	97.765%
56.0	7.303	0.669	627.817	.089%	97.869%
57.0	6.972	0.653	628.47	.087%	97.971%
58.0	6.717	0.633	629.103	.084%	98.069%
59.0	6.537	0.620	629.723	.082%	98.166%
60.0	6.328	0.608	630.33	.081%	98.261%
61.0	6.125	0.594	630.925	.079%	98.353%
62.0	5.957	0.582	631.507	.077%	98.444%
63.0	5.760	0.570	632.077	.076%	98.533%
64.0	5.586	0.557	632.634	.074%	98.620%
65.0	5.377	0.543	633.176	.072%	98.704%
66.0	5.186	0.527	633.703	.070%	98.787%
67.0	5.012	0.513	634.216	.068%	98.866%
68.0	4.809	0.497	634.713	.066%	98.944%
69.0	4.565	0.478	635.191	.064%	99.019%
70.0	4.368	0.459	635.65	.061%	99.090%
71.0	4.147	0.440	636.09	.058%	99.159%
72.0	3.927	0.420	636.51	.056%	99.224%
73.0	3.764	0.402	636.912	.053%	99.287%
74.0	3.596	0.387	637.299	.051%	99.347%
75.0	3.422	0.371	637.67	.049%	99.405%

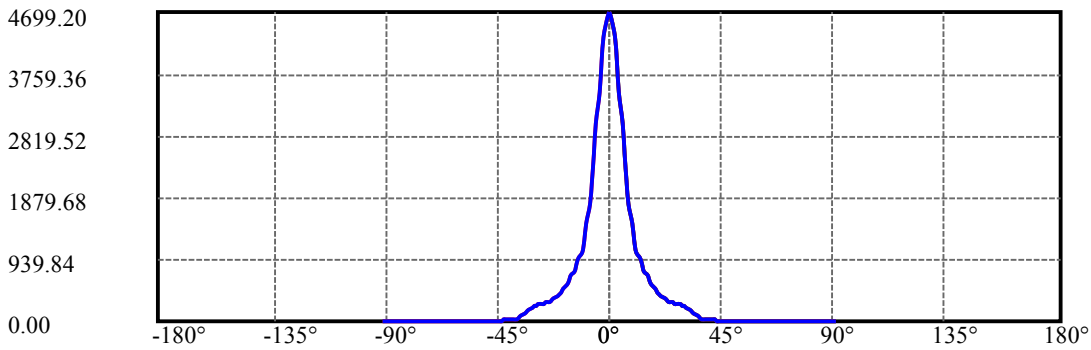
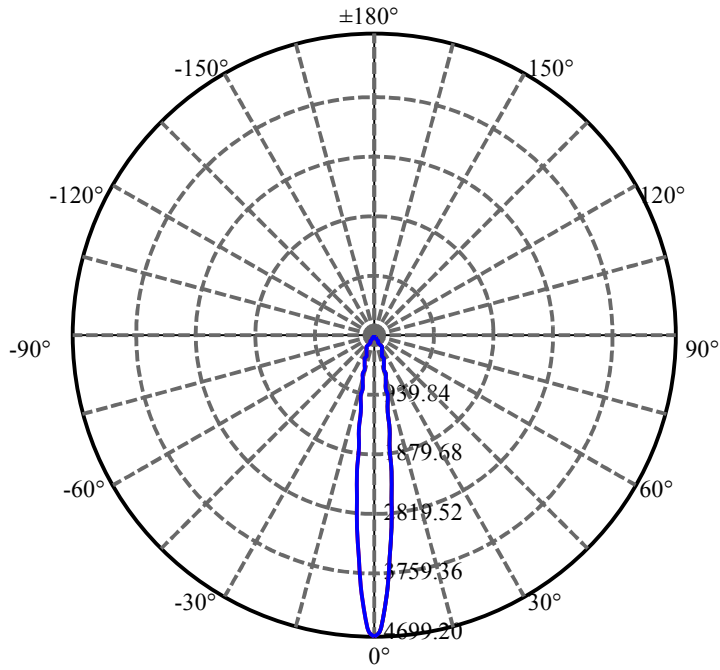
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.271	0.355	638.026	.047%	99.460%
77.0	3.126	0.341	638.367	.045%	99.514%
78.0	2.958	0.326	638.692	.043%	99.564%
79.0	2.796	0.309	639.002	.041%	99.612%
80.0	2.651	0.294	639.295	.039%	99.658%
81.0	2.488	0.278	639.573	.037%	99.702%
82.0	2.355	0.263	639.836	.035%	99.743%
83.0	2.227	0.249	640.085	.033%	99.781%
84.0	2.094	0.235	640.32	.031%	99.818%
85.0	1.984	0.223	640.543	.030%	99.853%
86.0	1.885	0.211	640.754	.028%	99.886%
87.0	1.775	0.200	640.955	.027%	99.917%
88.0	1.676	0.189	641.144	.025%	99.946%
89.0	1.566	0.178	641.321	.024%	99.974%
90.0	1.462	0.166	641.487	.022%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	556.28	73.87%	86.72%
0-40	614.06	81.55%	95.72%
0-60	630.33	83.71%	98.26%
0-90	641.32	85.17%	99.97%
0-120	641.32	85.17%	99.97%
0-180	641.49	85.19%	100.00%
60-90	11.60	1.54%	1.81%
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%
0-26.64	513.19	68.15%	80.00%

ZONAL LUMEN SUMMARY

0-10	226.80
10-20	193.90
20-30	135.57
30-40	57.78
40-50	9.59
50-60	6.68
60-70	5.32
70-80	3.64
80-90	2.03
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



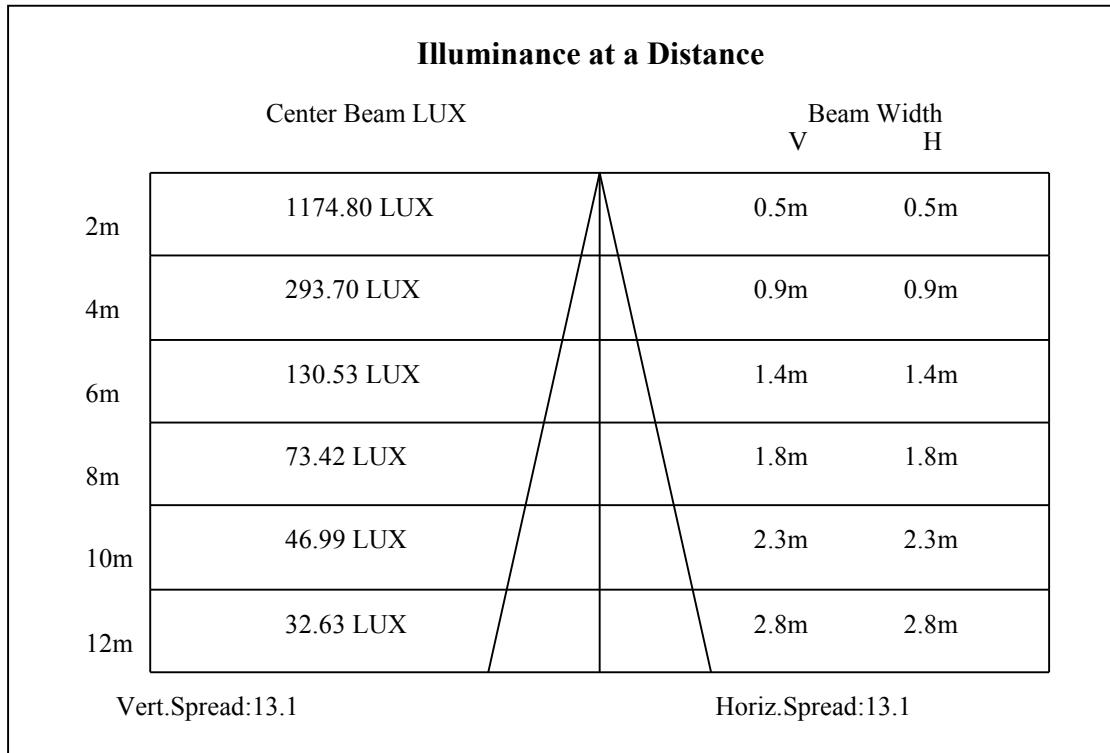
C0(Max): —————

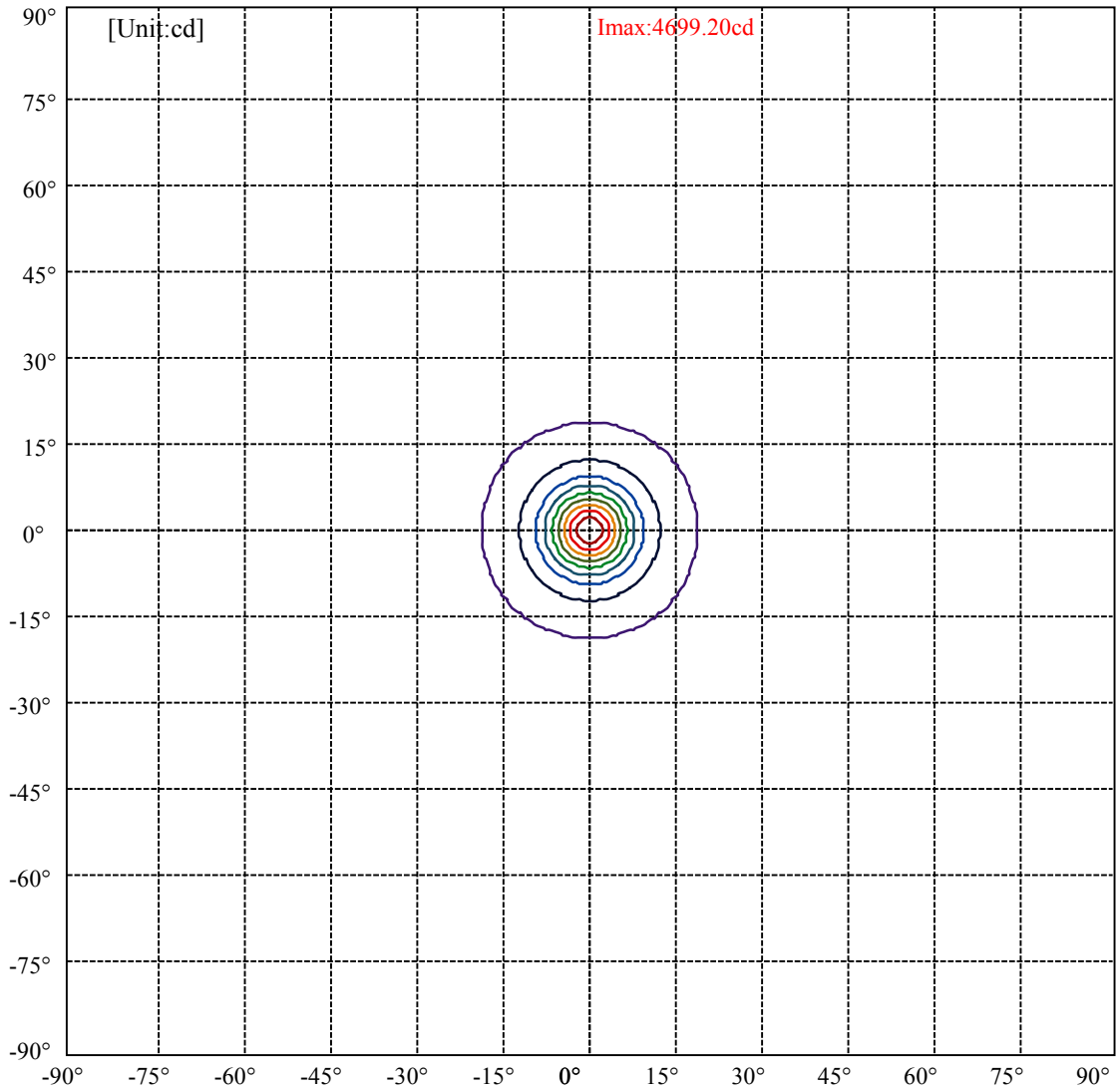
C0/C180: —————

C90/C270: —————

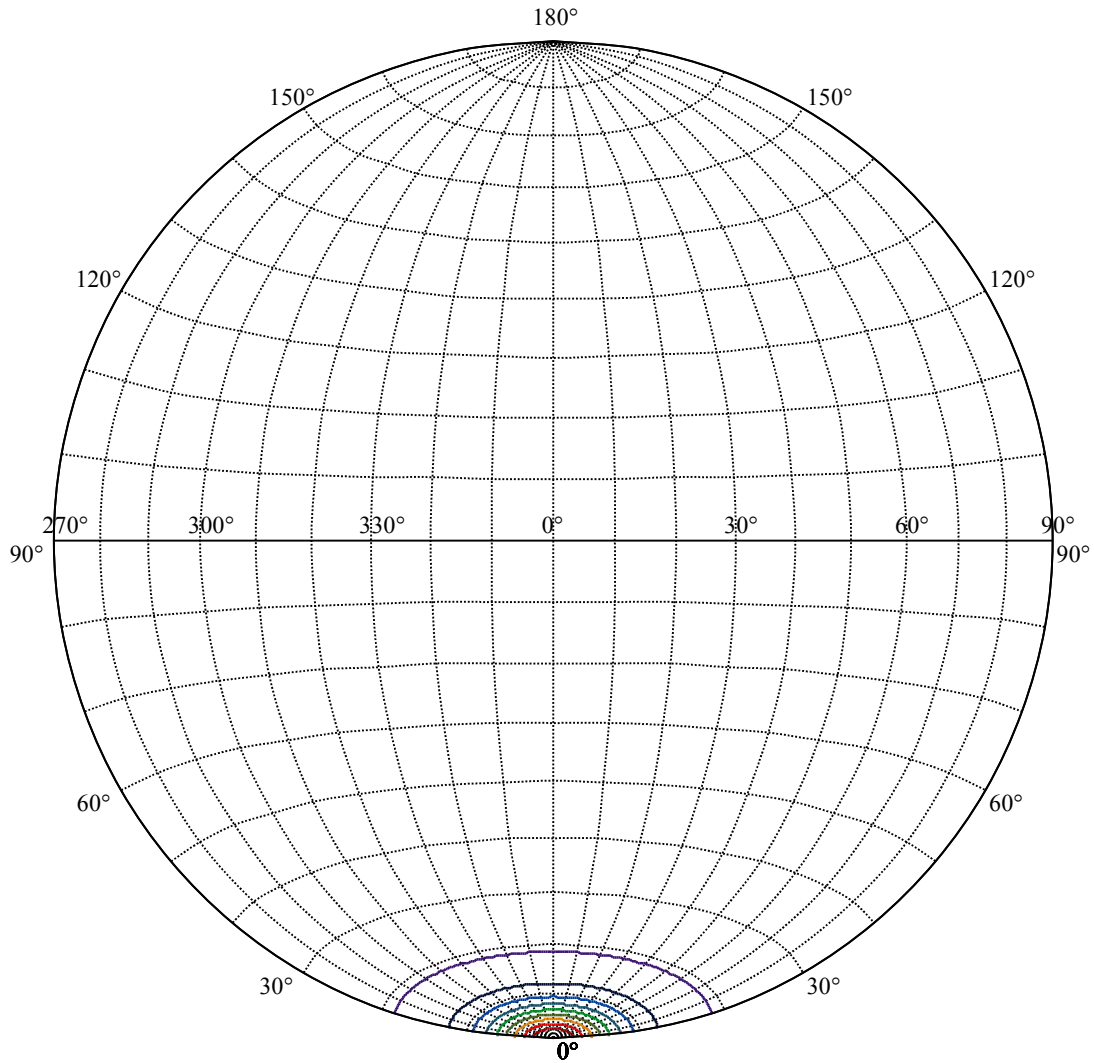
Field angle(10%Imax):C0/180Left:18.6 Right:18.6
:C90/270Left:18.6 Right:18.6

Beam Angle(50%Imax):C0/180Left:6.5 Right:6.5
:C90/270Left:6.5 Right:6.5





(10%Imax) 469.92	—
(20%Imax) 939.839	—
(30%Imax) 1409.76	—
(40%Imax) 1879.68	—
(50%Imax) 2349.6	—
(60%Imax) 2819.52	—
(70%Imax) 3289.44	—
(80%Imax) 3759.36	—
(90%Imax) 4229.28	—



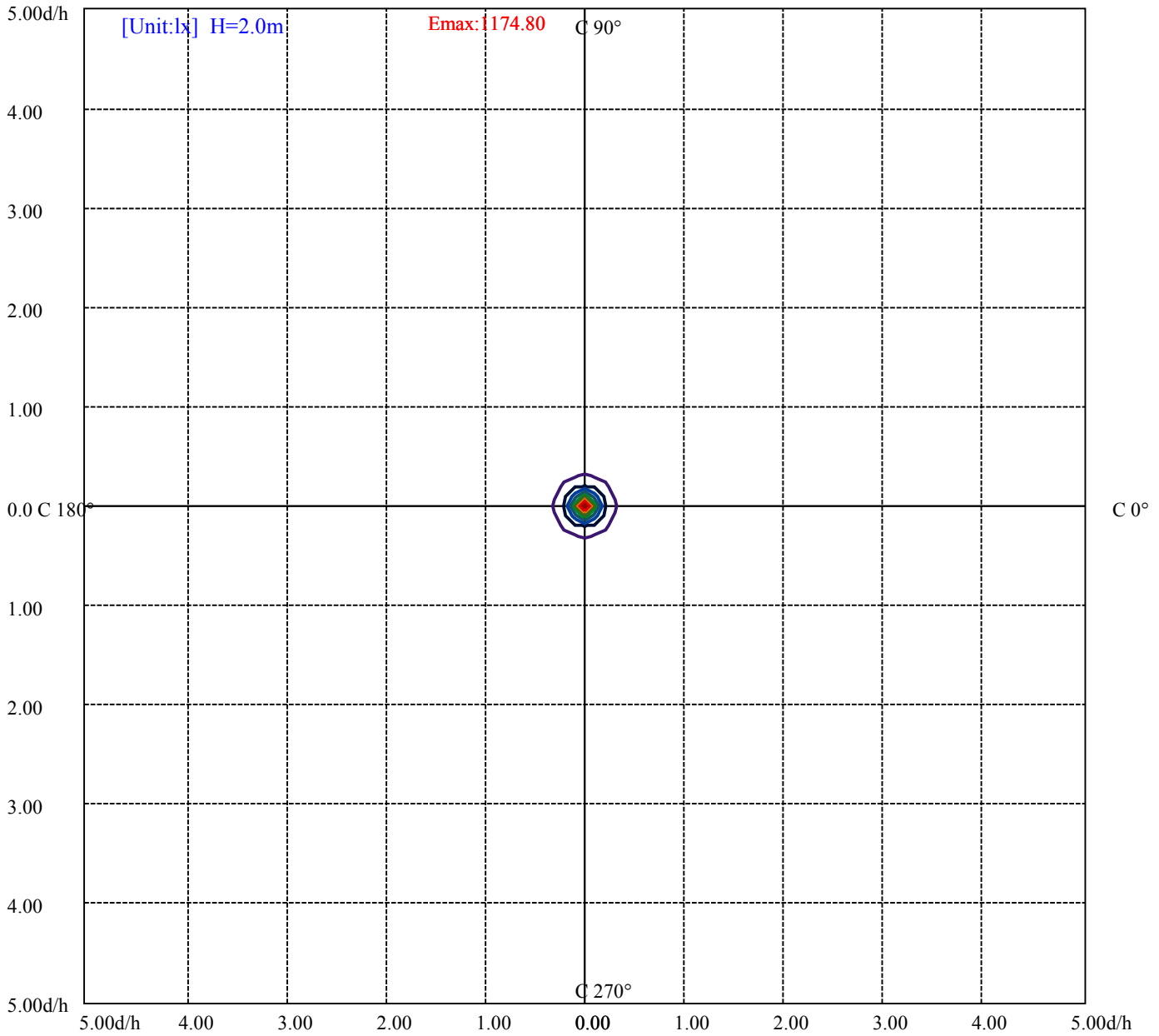
House

[Unit:cd]

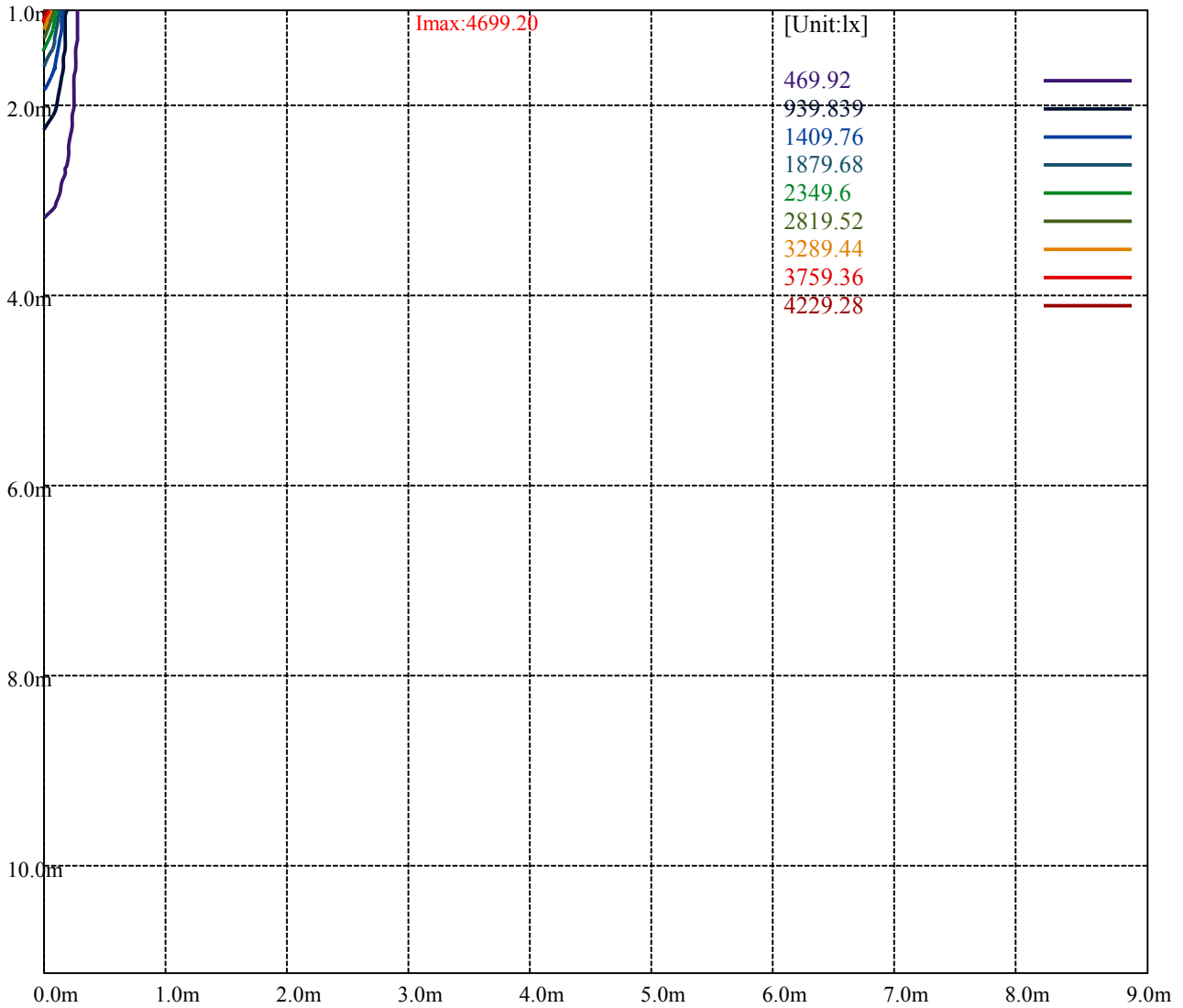
Road

Imax:4699.20

(10%Imax) 469.92	—
(20%Imax) 939.839	—
(30%Imax) 1409.76	—
(40%Imax) 1879.68	—
(50%Imax) 2349.6	—
(60%Imax) 2819.52	—
(70%Imax) 3289.44	—
(80%Imax) 3759.36	—
(90%Imax) 4229.28	—



- (10%Emax) 117.4795
- (20%Emax) 234.959
- (30%Emax) 352.4375
- (40%Emax) 469.9175
- (50%Emax) 587.3975
- (60%Emax) 704.8775
- (70%Emax) 822.3575
- (80%Emax) 939.8375
- (90%Emax) 1057.315



Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

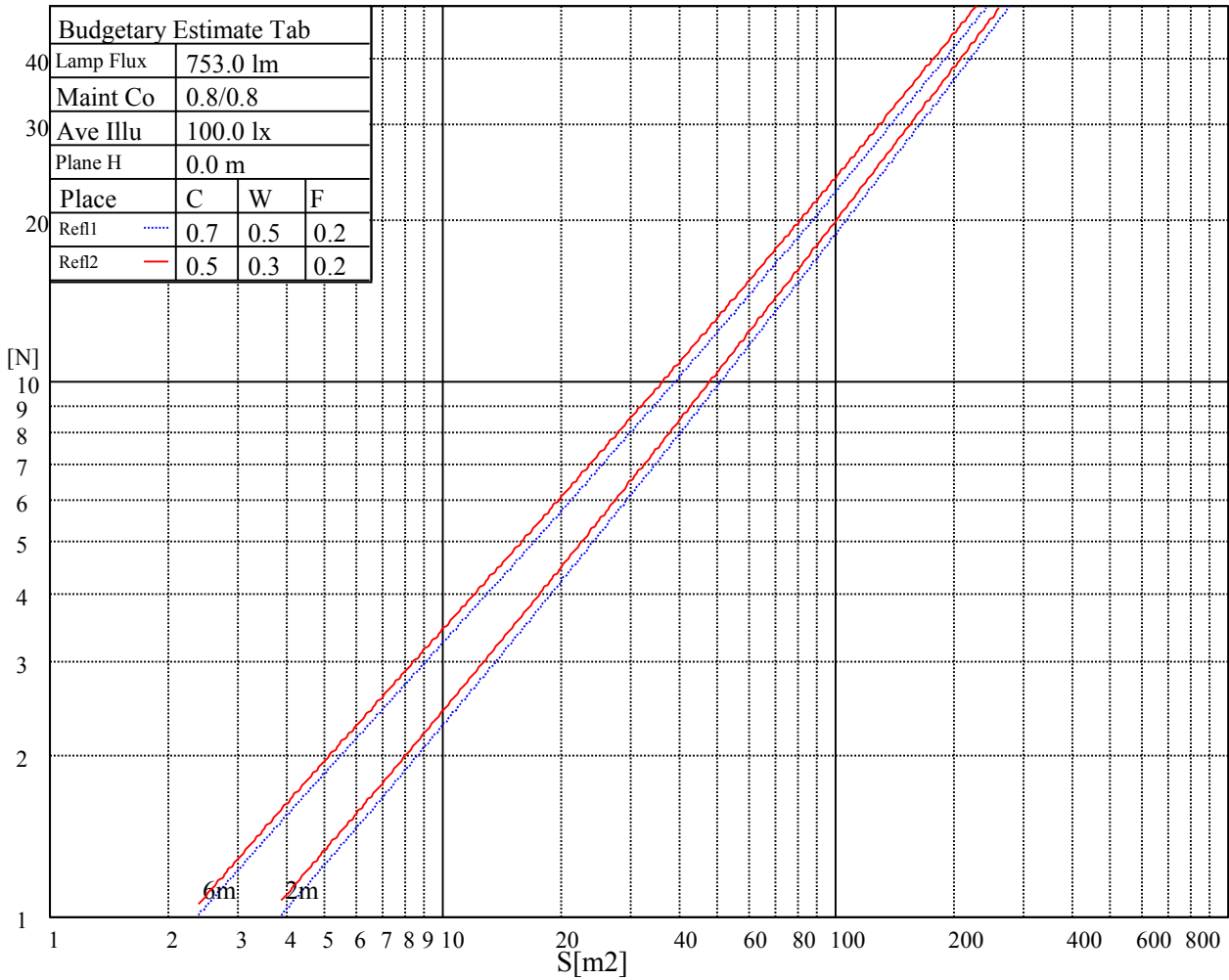
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

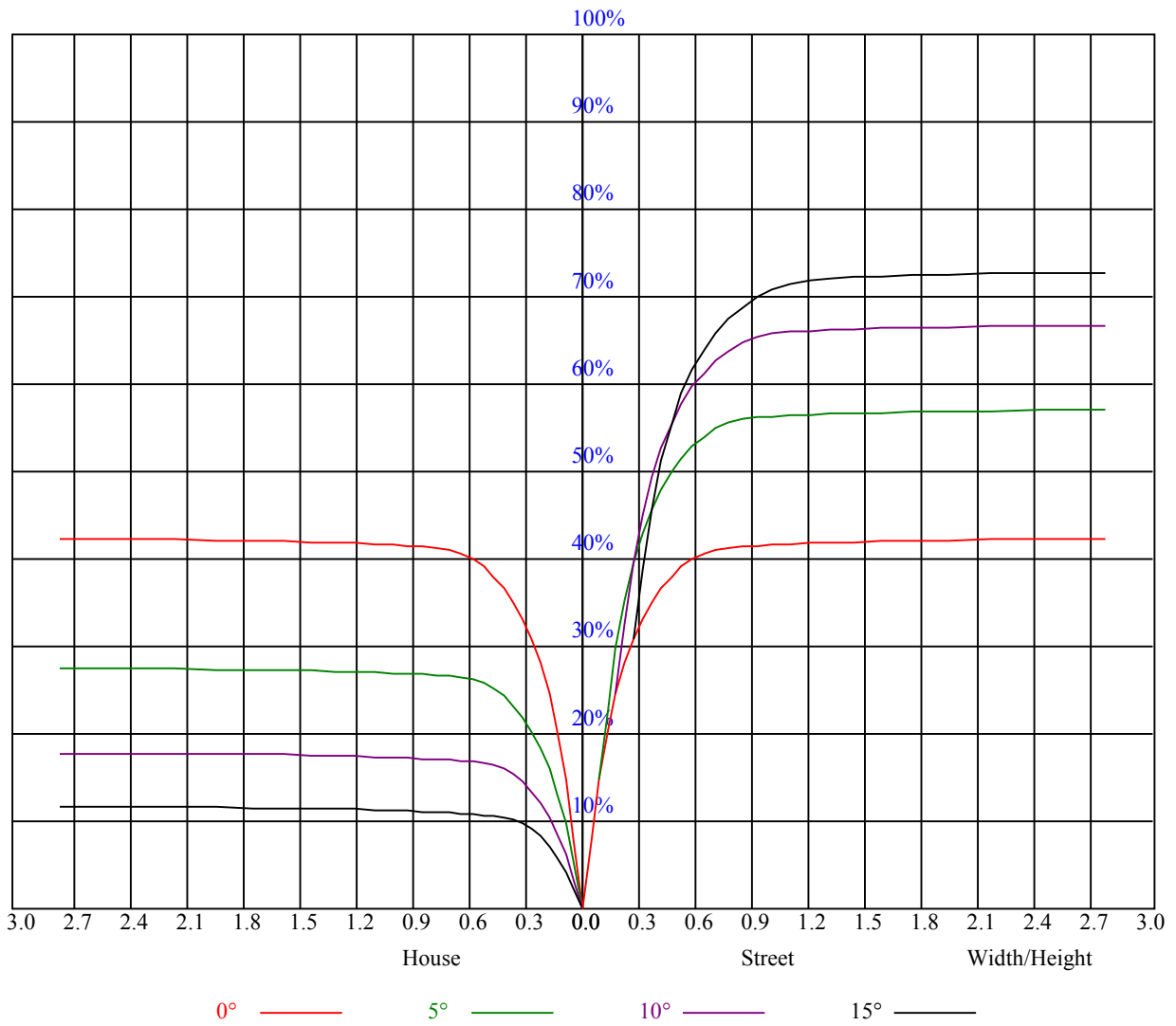
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.01	1.01	1.01	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.95	0.94	0.92	0.94	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.81
2	0.90	0.87	0.85	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.81	0.81	0.80	0.79	0.78
3	0.86	0.82	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.78	0.77	0.79	0.77	0.75	0.74
4	0.82	0.78	0.75	0.81	0.78	0.75	0.79	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.71
5	0.78	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.71	0.70	0.69
6	0.75	0.71	0.69	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.71	0.69	0.67	0.66
7	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64
8	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62
9	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
10	0.66	0.62	0.59	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.58



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	4748.04	4655.23	4384.70	3987.95	3505.36	3004.20	2534.13	2096.55	1718.83
45.0	4663.12	4691.42	4512.77	4191.20	3769.85	3386.10	2884.94	2421.37	2000.03
90.0	4602.79	4292.36	3865.44	3371.25	2878.45	2421.37	2018.13	1671.96	1403.28
135.0	4782.84	4620.43	4290.96	3849.20	3346.66	2842.72	2383.79	1988.43	1657.57
180.0	4748.04	4631.10	4343.40	3945.26	3469.62	2974.96	2692.83	2084.95	1853.86
225.0	4663.12	4451.06	4105.35	3664.52	3176.36	2688.19	2230.66	1835.30	1510.01
270.0	4602.79	4737.36	4660.80	4395.37	4006.05	3539.69	3045.50	2758.73	2308.61
315.0	4782.84	4728.08	4479.83	4092.82	3618.58	3104.89	2615.34	2186.11	1813.95
360.0	4748.04	4655.23	4384.70	3987.95	3505.36	3004.20	2534.13	2096.55	1718.83
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1424.63	1208.39	900.09	900.09	836.33	739.62	653.03	579.39	518.60
45.0	1642.26	1357.34	1149.92	998.65	881.25	786.12	703.06	627.88	562.92
90.0	1206.53	905.51	905.51	864.63	770.11	684.96	610.71	548.12	494.43
135.0	1401.43	1208.39	1055.26	980.55	869.65	771.73	687.74	612.57	549.00
180.0	1528.57	1204.68	1102.59	968.48	859.44	766.17	687.74	615.82	554.10
225.0	1260.83	901.34	901.34	835.63	776.47	684.96	602.41	532.85	471.41
270.0	1916.04	1592.61	1346.21	1163.84	1026.49	916.51	821.39	735.08	658.97
315.0	1510.94	1329.04	1161.06	883.98	883.98	826.58	740.69	661.29	591.23
360.0	1424.63	1208.39	900.09	900.09	836.33	739.62	653.03	579.39	518.60
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	469.56	430.30	399.49	371.97	347.42	326.63	309.28	292.76	277.72
45.0	508.16	463.15	422.32	387.05	357.35	330.90	309.56	294.24	285.89
90.0	449.42	411.32	378.28	349.46	324.96	304.31	287.24	273.73	262.74
135.0	495.17	449.23	410.25	375.91	347.61	324.87	304.92	288.68	274.29
180.0	500.74	456.66	416.75	382.87	353.18	326.73	305.38	287.75	279.39
225.0	420.65	378.05	343.48	313.64	286.73	265.10	249.51	239.95	232.99
270.0	589.37	528.12	477.54	434.85	398.19	366.63	341.11	318.37	302.13
315.0	530.11	477.95	432.99	394.89	363.48	337.82	316.66	305.80	283.34
360.0	469.56	430.30	399.49	371.97	347.42	326.63	309.28	292.76	277.72
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	264.68	253.59	241.62	225.01	197.54	178.42	132.25	112.71	81.86
45.0	273.83	258.98	253.41	242.74	237.17	232.99	159.58	122.92	87.70
90.0	252.34	240.51	220.00	189.70	154.89	132.95	97.12	55.68	43.34
135.0	261.76	250.62	239.49	233.92	233.92	162.92	126.91	92.71	61.58
180.0	266.40	249.70	242.74	233.46	233.46	168.86	133.92	99.49	68.44
225.0	227.79	221.48	213.83	199.81	175.22	151.00	113.92	90.12	63.85
270.0	279.86	268.26	255.73	240.88	230.67	230.67	180.42	148.03	113.08
315.0	269.37	261.81	249.00	235.03	212.76	183.94	152.67	120.23	87.56
360.0	264.68	253.59	241.62	225.01	197.54	178.42	132.25	112.71	81.86
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	45.99	36.38	29.05	23.99	19.95	17.35	15.31	13.74	12.48
45.0	58.70	39.07	30.21	24.83	20.56	18.19	15.64	14.25	12.95
90.0	32.02	26.45	21.90	18.75	16.61	14.85	13.50	12.53	11.65
135.0	38.89	28.58	23.71	19.49	16.75	14.85	13.36	12.20	11.37
180.0	44.22	30.81	25.38	20.97	17.73	15.68	14.01	12.58	11.97
225.0	43.25	31.79	26.73	22.46	19.26	17.08	15.27	13.87	12.76
270.0	80.18	53.32	36.15	29.19	24.13	20.09	17.45	16.19	13.92
315.0	59.21	40.28	32.20	26.73	22.27	19.35	17.12	15.31	13.87
360.0	45.99	36.38	29.05	23.99	19.95	17.35	15.31	13.74	12.48

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	11.55	10.81	10.12	9.56	9.10	8.68	8.35	8.03	7.84
45.0	11.93	11.09	10.44	9.98	9.56	9.00	8.63	8.31	8.07
90.0	10.95	10.44	9.98	9.47	8.96	8.54	8.26	8.03	7.89
135.0	10.86	10.07	9.51	9.28	8.72	8.40	8.07	7.80	7.52
180.0	10.72	10.26	9.74	9.23	8.82	8.40	8.12	7.80	7.47
225.0	11.74	10.95	10.30	9.74	9.19	8.63	8.21	7.98	7.70
270.0	13.13	12.06	11.18	10.53	9.98	9.42	8.91	8.49	8.12
315.0	12.85	12.11	11.37	10.58	10.12	9.56	9.05	8.68	8.35
360.0	11.55	10.81	10.12	9.56	9.10	8.68	8.35	8.03	7.84
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.66	7.52	7.24	6.82	6.59	6.45	6.26	5.99	5.80
45.0	7.89	7.75	7.56	7.05	6.68	6.54	6.31	6.08	5.99
90.0	7.70	7.29	7.10	6.91	6.77	6.64	6.40	6.26	6.13
135.0	7.33	7.19	6.96	6.68	6.50	6.40	6.26	6.13	5.94
180.0	7.33	7.24	7.01	6.68	6.40	6.22	6.03	5.80	5.61
225.0	7.52	7.38	7.24	6.87	6.68	6.40	6.03	5.85	5.61
270.0	7.80	7.61	7.52	7.33	6.91	6.64	6.50	6.26	6.03
315.0	8.17	8.03	7.80	7.42	7.19	7.01	6.82	6.64	6.54
360.0	7.66	7.52	7.24	6.82	6.59	6.45	6.26	5.99	5.80
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.52	5.34	5.10	4.92	4.73	4.59	4.32	4.08	3.85
45.0	5.66	5.48	5.24	5.10	4.87	4.69	4.55	4.32	4.04
90.0	5.89	5.66	5.43	5.24	5.06	4.73	4.45	4.27	4.13
135.0	5.80	5.66	5.52	5.34	5.15	4.97	4.78	4.59	4.32
180.0	5.48	5.29	5.15	4.92	4.83	4.59	4.41	4.18	3.99
225.0	5.38	5.20	4.97	4.83	4.64	4.41	4.18	3.99	3.81
270.0	5.94	5.89	5.66	5.43	5.29	5.10	4.87	4.64	4.41
315.0	6.40	6.17	5.94	5.71	5.52	5.38	4.97	4.87	4.64
360.0	5.52	5.34	5.10	4.92	4.73	4.59	4.32	4.08	3.85
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.71	3.53	3.34	3.16	3.06	2.92	2.69	2.60	2.46
45.0	3.85	3.76	3.48	3.29	3.20	3.06	2.83	2.69	2.55
90.0	3.90	3.67	3.57	3.43	3.29	3.16	2.97	2.78	2.69
135.0	4.08	3.90	3.81	3.62	3.43	3.29	3.20	2.97	2.83
180.0	3.71	3.57	3.43	3.29	3.11	2.92	2.78	2.64	2.41
225.0	3.62	3.43	3.29	3.11	2.92	2.83	2.64	2.51	2.32
270.0	4.18	3.99	3.76	3.57	3.43	3.25	3.11	2.97	2.83
315.0	4.36	4.27	4.08	3.90	3.71	3.57	3.43	3.20	3.11
360.0	3.71	3.53	3.34	3.16	3.06	2.92	2.69	2.60	2.46
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.27	2.13	2.00	1.90	1.76	1.67	1.53	1.48	1.39
45.0	2.41	2.18	2.04	1.90	1.76	1.67	1.58	1.44	1.35
90.0	2.51	2.37	2.32	2.18	2.09	1.95	1.86	1.72	1.58
135.0	2.69	2.60	2.46	2.32	2.23	2.18	2.04	1.90	1.72
180.0	2.27	2.18	2.00	1.86	1.81	1.67	1.58	1.53	1.39
225.0	2.13	2.04	1.90	1.76	1.62	1.58	1.44	1.35	1.30
270.0	2.60	2.46	2.37	2.23	2.09	1.95	1.86	1.76	1.72
315.0	3.02	2.88	2.74	2.60	2.51	2.41	2.32	2.23	2.09
360.0	2.27	2.13	2.00	1.90	1.76	1.67	1.53	1.48	1.39

Intensity data(cd)

C/γ(°)	90.0
0.0	1.39
45.0	1.30
90.0	1.48
135.0	1.53
180.0	1.35
225.0	1.21
270.0	1.53
315.0	1.90
360.0	1.39