



NATA LIGHTING CO.,LTD.
www.nata.cn
Email:info@nata.com
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOU Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 3-2547-M	
Luminaire: 92.70.131.00	
Report No: 200921-B048	Voltage(V): 230.8000
Test No: 200921-C048	Current(A): 0.0890
LampCAT: LUMINUS CXM-14-AC40	Power (W): 19.5800
Lamp flux(lm): 2101.3	PF: 0.9530
Number of Lamps: 1	Ballast type: AC
Length(feet)(ft.):0.000	Width(feet)(ft.):0.000
Phm Type: C	Height(feet)(ft.):0.000

Photometric Results

Lumens(lm): 2009.80
Efficiency(%): 95.65%
Lumens(lm)/Power(W): 102.65
Central intensity(cd): 4819.335
Maximum intensity(cd): 4819.335
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.3
[C90/270]Total=35.3
Field angle(10%Imax): [C0/180]Total=67.0
[C90/270]Total=67.0
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
Maximum s/h(1/4): C0_180=0.56 C90_270=0.56
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 95.70%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 99.685%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4819.335	1.153	1.153	.055%	.057%
1.0	4816.667	9.218	10.371	.439%	.516%
2.0	4805.762	18.392	28.764	.875%	1.431%
3.0	4785.171	27.463	56.227	1.307%	2.798%
4.0	4756.575	36.386	92.612	1.732%	4.608%
5.0	4713.304	45.048	137.66	2.144%	6.849%
6.0	4643.641	53.229	190.889	2.533%	9.498%
7.0	4566.785	61.032	251.921	2.904%	12.535%
8.0	4464.814	68.141	320.062	3.243%	15.925%
9.0	4319.165	74.094	394.156	3.526%	19.612%
10.0	4153.505	79.093	473.249	3.764%	23.547%
11.0	3980.653	83.292	556.541	3.964%	27.691%
12.0	3768.068	85.911	642.452	4.088%	31.966%
13.0	3539.067	87.303	729.755	4.155%	36.310%
14.0	3299.046	87.522	817.277	4.165%	40.664%
15.0	3080.080	87.420	904.696	4.160%	45.014%
16.0	2801.370	84.676	989.372	4.030%	49.227%
17.0	2557.462	81.997	1071.369	3.902%	53.307%
18.0	2334.320	79.103	1150.472	3.764%	57.243%
19.0	2073.939	74.044	1224.516	3.524%	60.927%
20.0	1858.802	69.717	1294.233	3.318%	64.396%
21.0	1639.430	64.428	1358.661	3.066%	67.602%
22.0	1426.758	58.611	1417.272	2.789%	70.518%
23.0	1280.993	54.888	1472.16	2.612%	73.249%
24.0	1133.593	50.562	1522.721	2.406%	75.765%
25.0	1009.951	46.806	1569.527	2.227%	78.094%
26.0	932.168	44.811	1614.339	2.133%	80.323%
27.0	874.703	43.547	1657.886	2.072%	82.490%
28.0	831.942	42.831	1700.716	2.038%	84.621%
29.0	783.172	41.637	1742.353	1.981%	86.693%
30.0	730.597	40.059	1782.412	1.906%	88.686%
31.0	668.562	37.760	1820.172	1.797%	90.565%
32.0	602.895	35.035	1855.207	1.667%	92.308%
33.0	526.440	31.442	1886.649	1.496%	93.872%
34.0	436.760	26.783	1913.432	1.275%	95.205%
35.0	364.318	22.915	1936.347	1.091%	96.345%
36.0	287.155	18.509	1954.857	.881%	97.266%
37.0	220.056	14.523	1969.379	.691%	97.989%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	151.768	10.246	1979.626	.488%	98.498%
39.0	107.122	7.393	1987.019	.352%	98.866%
40.0	64.013	4.512	1991.531	.215%	99.091%
41.0	28.782	2.071	1993.601	.099%	99.194%
42.0	18.834	1.382	1994.983	.066%	99.263%
43.0	15.824	1.183	1996.167	.056%	99.321%
44.0	12.610	0.961	1997.127	.046%	99.369%
45.0	10.394	0.806	1997.933	.038%	99.409%
46.0	9.107	0.718	1998.652	.034%	99.445%
47.0	7.964	0.639	1999.291	.030%	99.477%
48.0	7.123	0.580	1999.871	.028%	99.506%
49.0	6.351	0.526	2000.397	.025%	99.532%
50.0	5.754	0.483	2000.88	.023%	99.556%
51.0	5.273	0.449	2001.329	.021%	99.578%
52.0	4.832	0.418	2001.747	.020%	99.599%
53.0	4.490	0.393	2002.14	.019%	99.619%
54.0	4.240	0.376	2002.516	.018%	99.637%
55.0	4.008	0.360	2002.876	.017%	99.655%
56.0	3.828	0.348	2003.224	.017%	99.673%
57.0	3.689	0.339	2003.564	.016%	99.689%
58.0	3.573	0.332	2003.896	.016%	99.706%
59.0	3.521	0.331	2004.227	.016%	99.722%
60.0	3.434	0.326	2004.553	.016%	99.739%
61.0	3.358	0.322	2004.875	.015%	99.755%
62.0	3.318	0.321	2005.196	.015%	99.771%
63.0	3.237	0.316	2005.513	.015%	99.786%
64.0	3.173	0.313	2005.825	.015%	99.802%
65.0	3.115	0.310	2006.135	.015%	99.817%
66.0	3.057	0.306	2006.441	.015%	99.833%
67.0	2.958	0.299	2006.74	.014%	99.848%
68.0	2.842	0.289	2007.029	.014%	99.862%
69.0	2.686	0.275	2007.304	.013%	99.876%
70.0	2.529	0.261	2007.564	.012%	99.889%
71.0	2.326	0.241	2007.805	.011%	99.901%
72.0	2.111	0.220	2008.026	.010%	99.912%
73.0	1.903	0.200	2008.225	.009%	99.921%
74.0	1.682	0.177	2008.402	.008%	99.930%
75.0	1.479	0.157	2008.559	.007%	99.938%

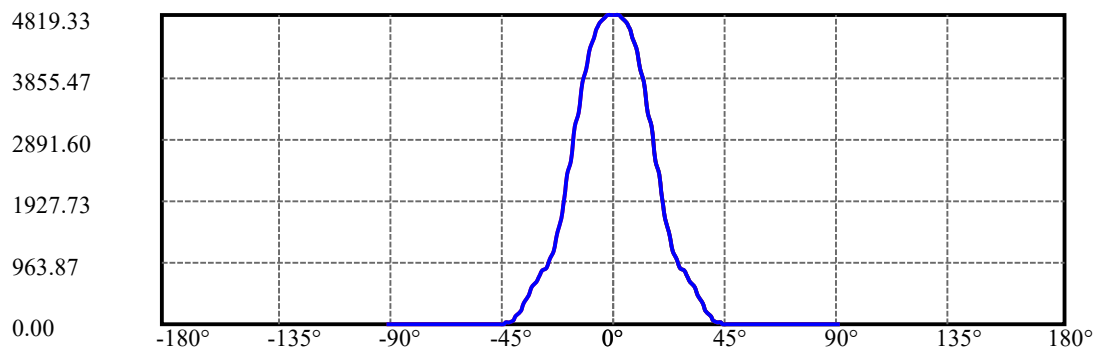
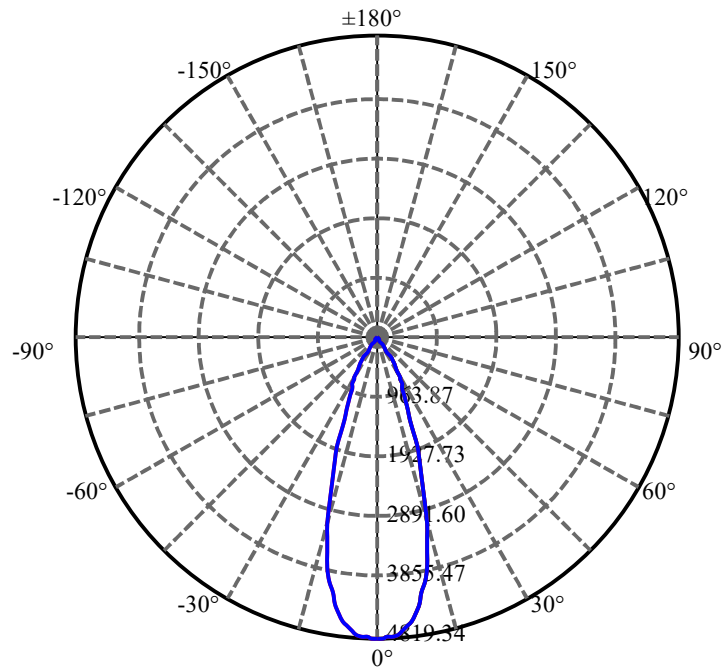
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	1.259	0.134	2008.693	.006%	99.945%
77.0	1.108	0.118	2008.811	.006%	99.951%
78.0	0.974	0.105	2008.916	.005%	99.956%
79.0	0.905	0.097	2009.013	.005%	99.961%
80.0	0.841	0.091	2009.104	.004%	99.965%
81.0	0.806	0.087	2009.192	.004%	99.970%
82.0	0.771	0.084	2009.275	.004%	99.974%
83.0	0.719	0.078	2009.354	.004%	99.978%
84.0	0.667	0.073	2009.426	.003%	99.981%
85.0	0.644	0.070	2009.497	.003%	99.985%
86.0	0.626	0.069	2009.565	.003%	99.988%
87.0	0.632	0.069	2009.634	.003%	99.992%
88.0	0.667	0.073	2009.708	.003%	99.995%
89.0	0.592	0.065	2009.772	.003%	99.998%
90.0	0.580	0.032	2009.804	.002%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1782.41	84.82%	88.69%
0-40	1991.53	94.78%	99.09%
0-60	2004.55	95.40%	99.74%
0-90	2009.77	95.64%	100.00%
0-120	2009.77	95.64%	100.00%
0-180	2009.80	95.65%	100.00%
60-90	5.55	0.26%	0.28%
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%
0-25.86	1607.84	76.52%	80.00%

ZONAL LUMEN SUMMARY

0-10	473.25
10-20	820.98
20-30	488.18
30-40	209.12
40-50	9.35
50-60	3.67
60-70	3.01
70-80	1.54
80-90	0.67
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

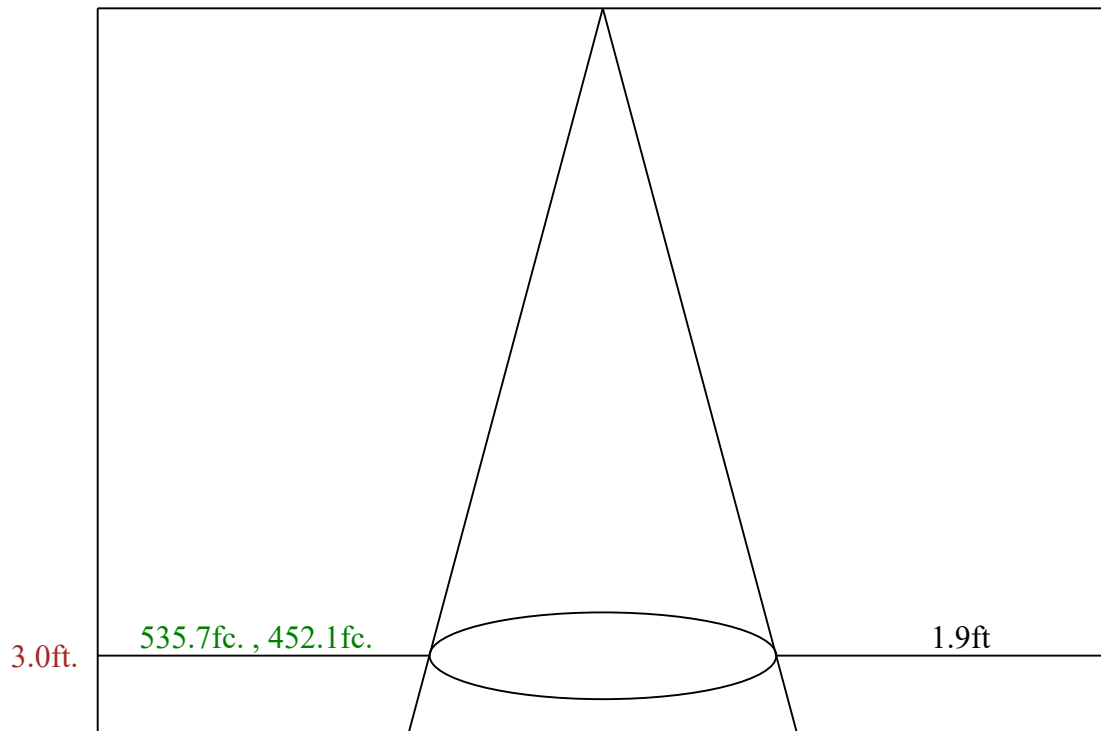
C0(Max): —————C0/C180: —————C90/C270: —————

Field angle(10%Imax):C0/180Left:33.5 Right:33.5

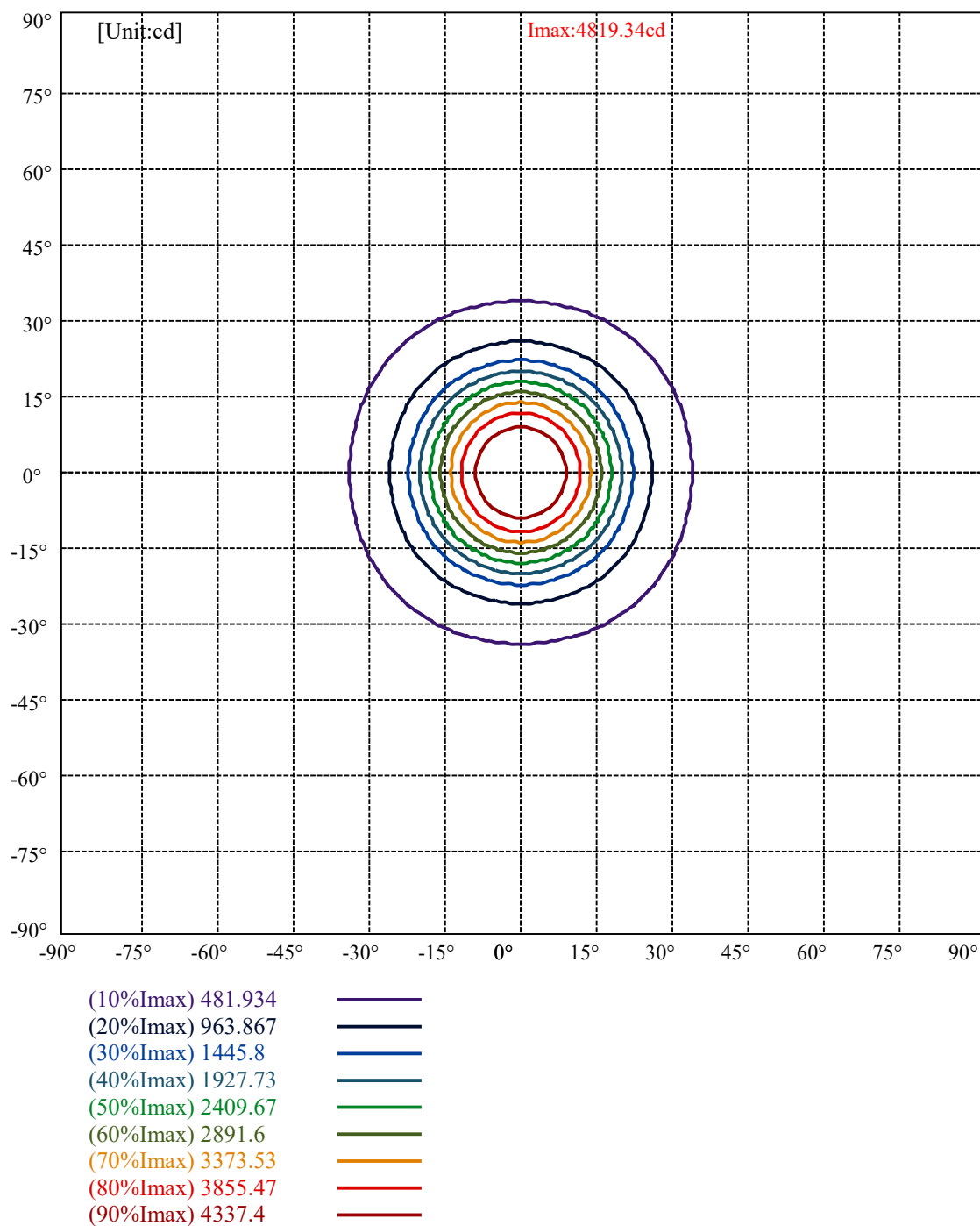
:C90/270Left:33.5 Right:33.5

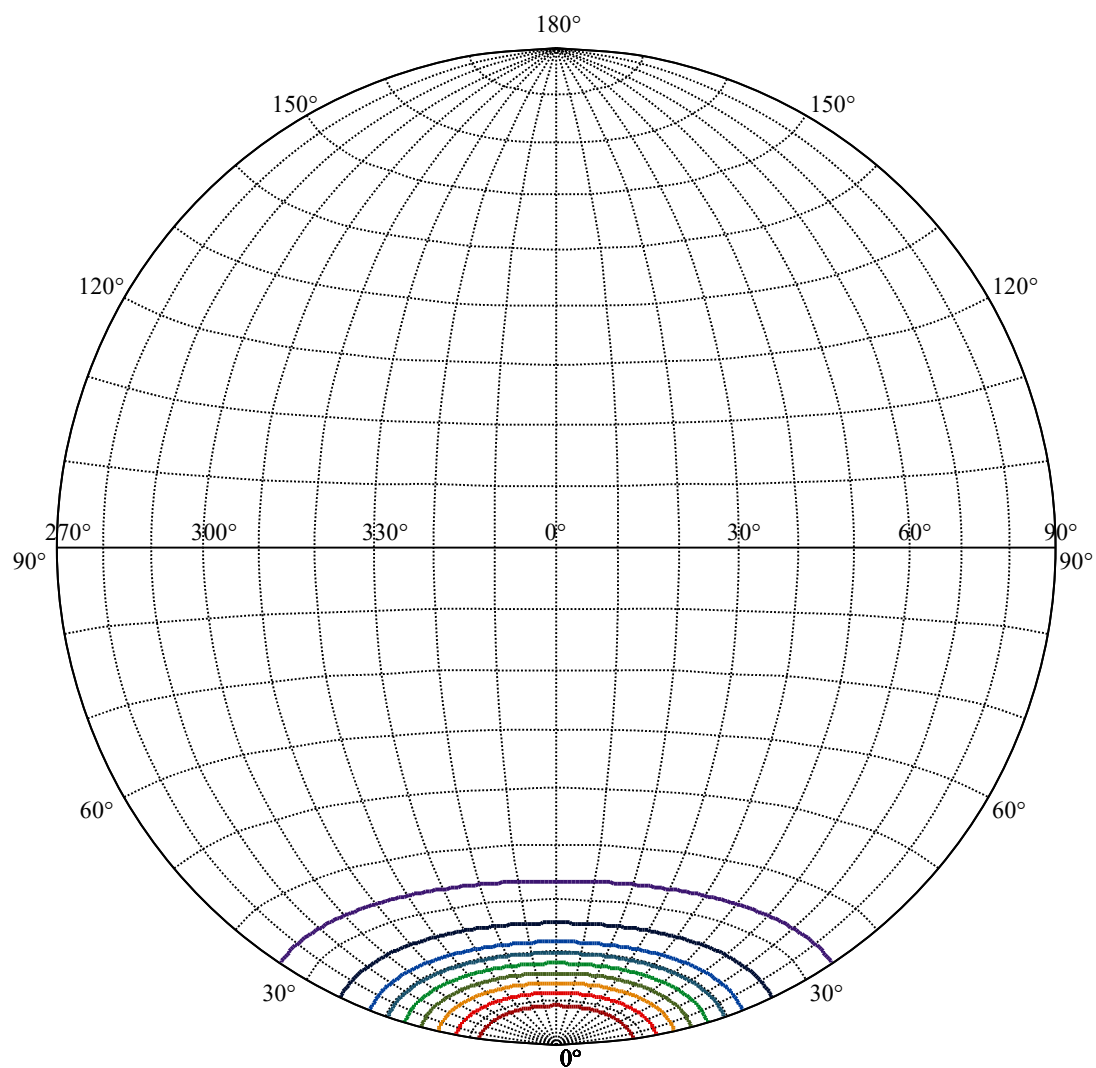
Beam Angle(50%Imax):C0/180Left:17.7 Right:17.7

:C90/270Left:17.7 Right:17.7



Max , Ave Beam angle of C0 plane 35.34





House

[Unit:cd]

Road

Imax:4819.34

(10%Imax) 481.934

(20%Imax) 963.867

(30%Imax) 1445.8

(40%Imax) 1927.73

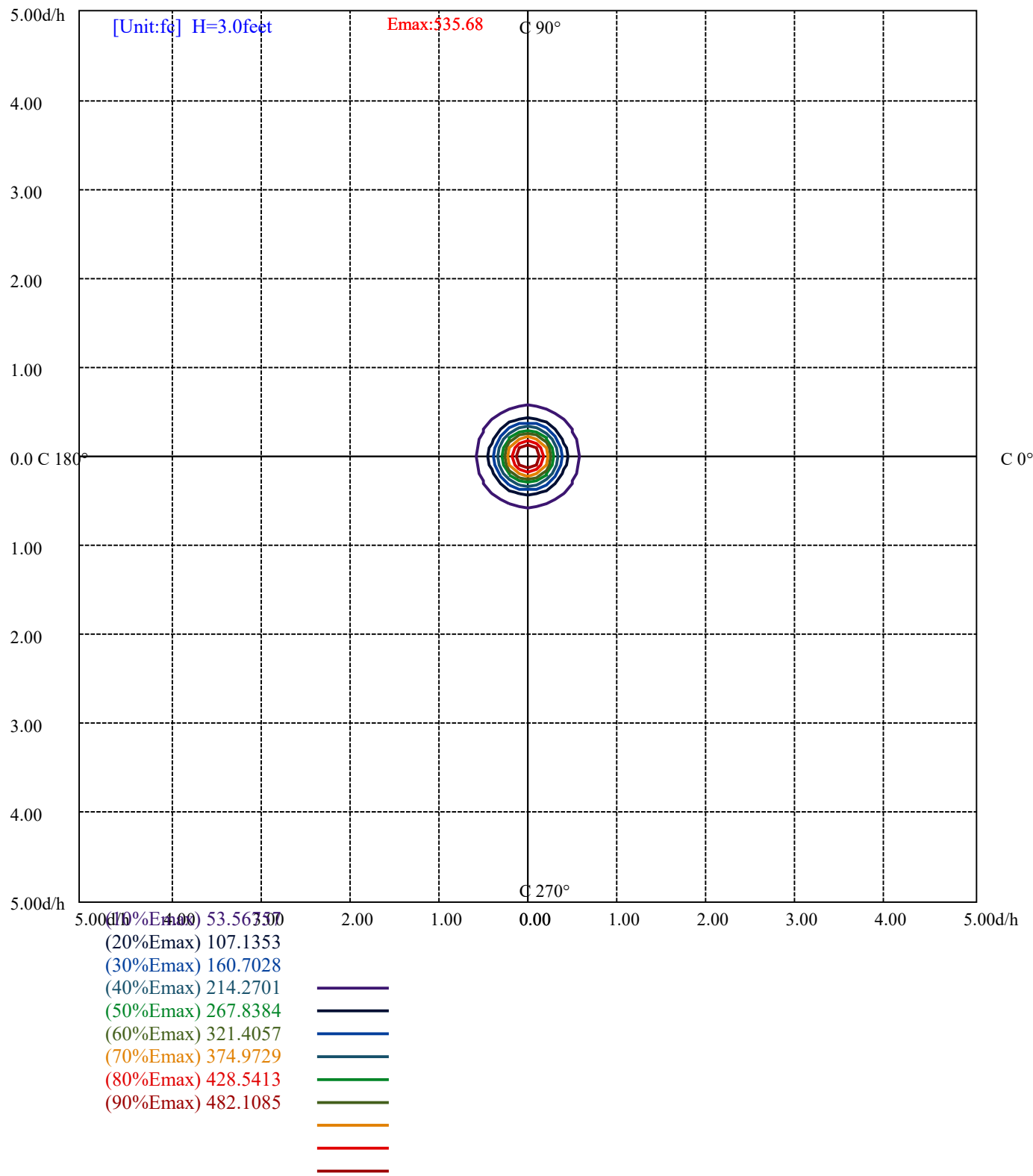
(50%Imax) 2409.67

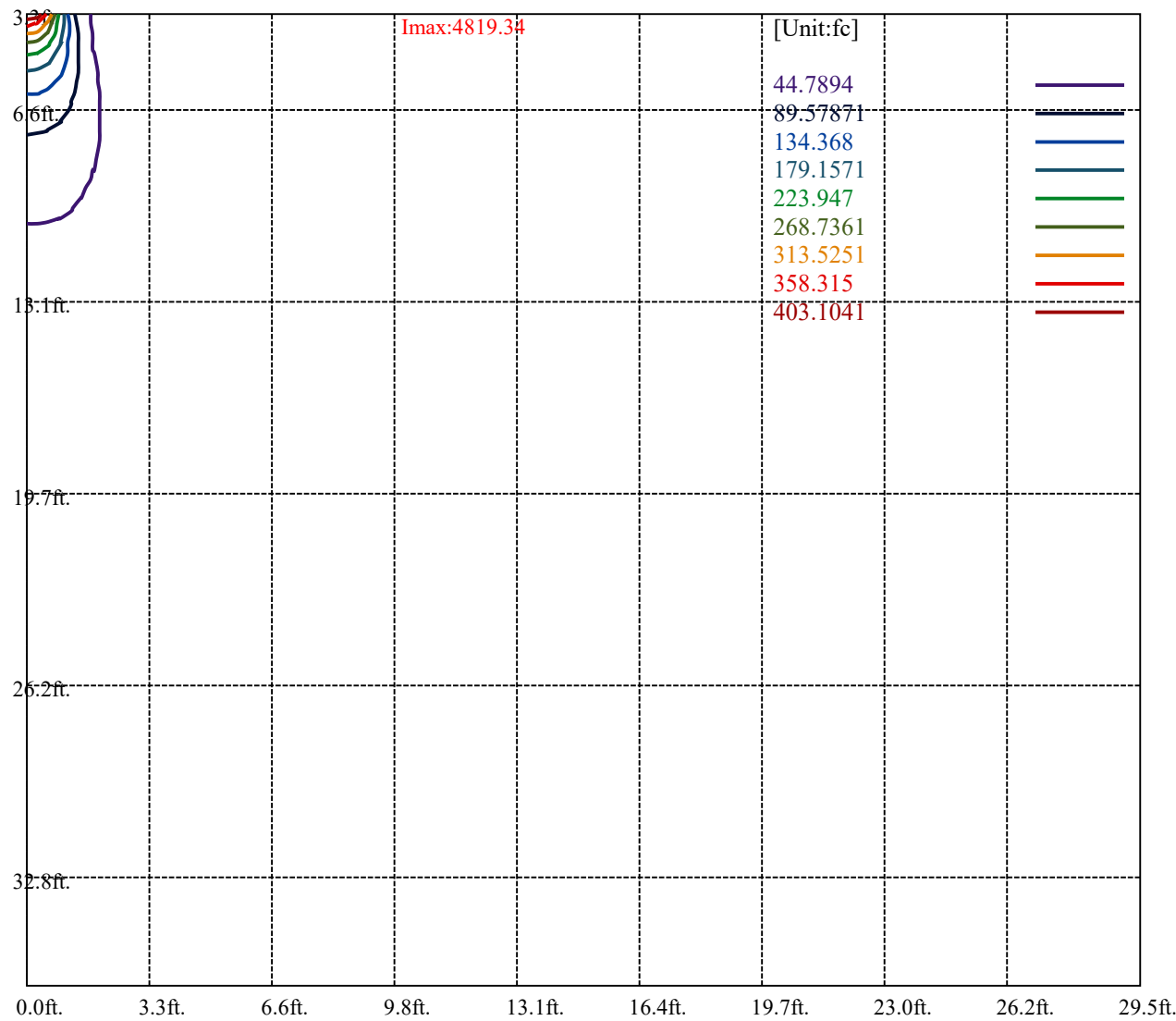
(60%Imax) 2891.6

(70%Imax) 3373.53

(80%Imax) 3855.47

(90%Imax) 4337.4





Luminance Table

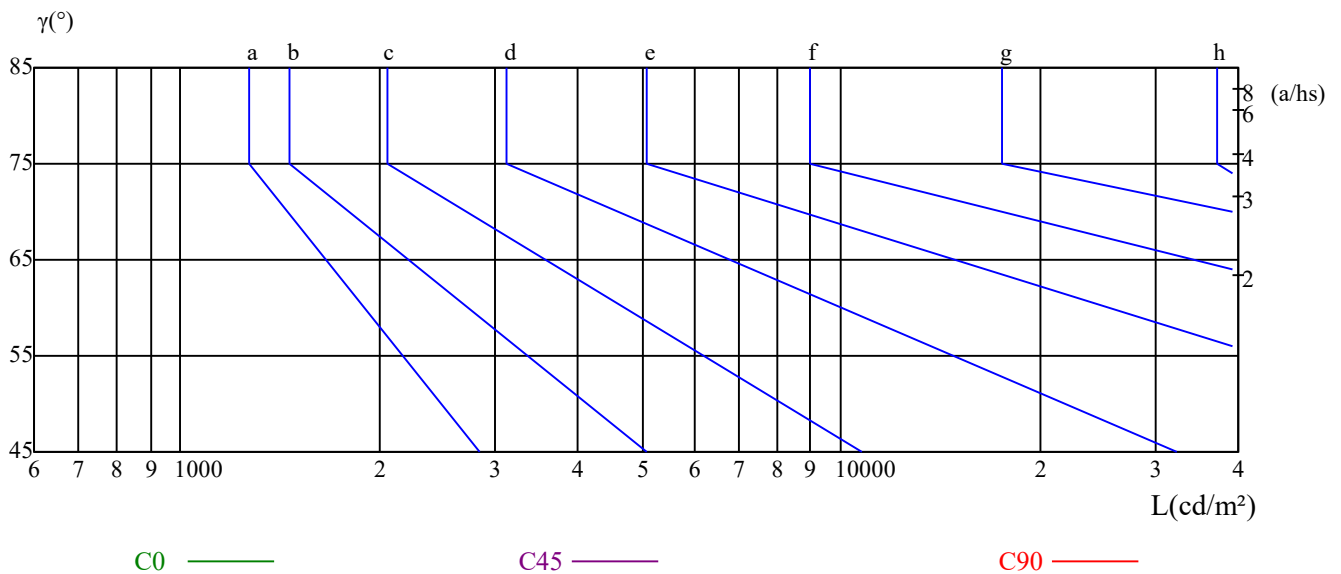
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

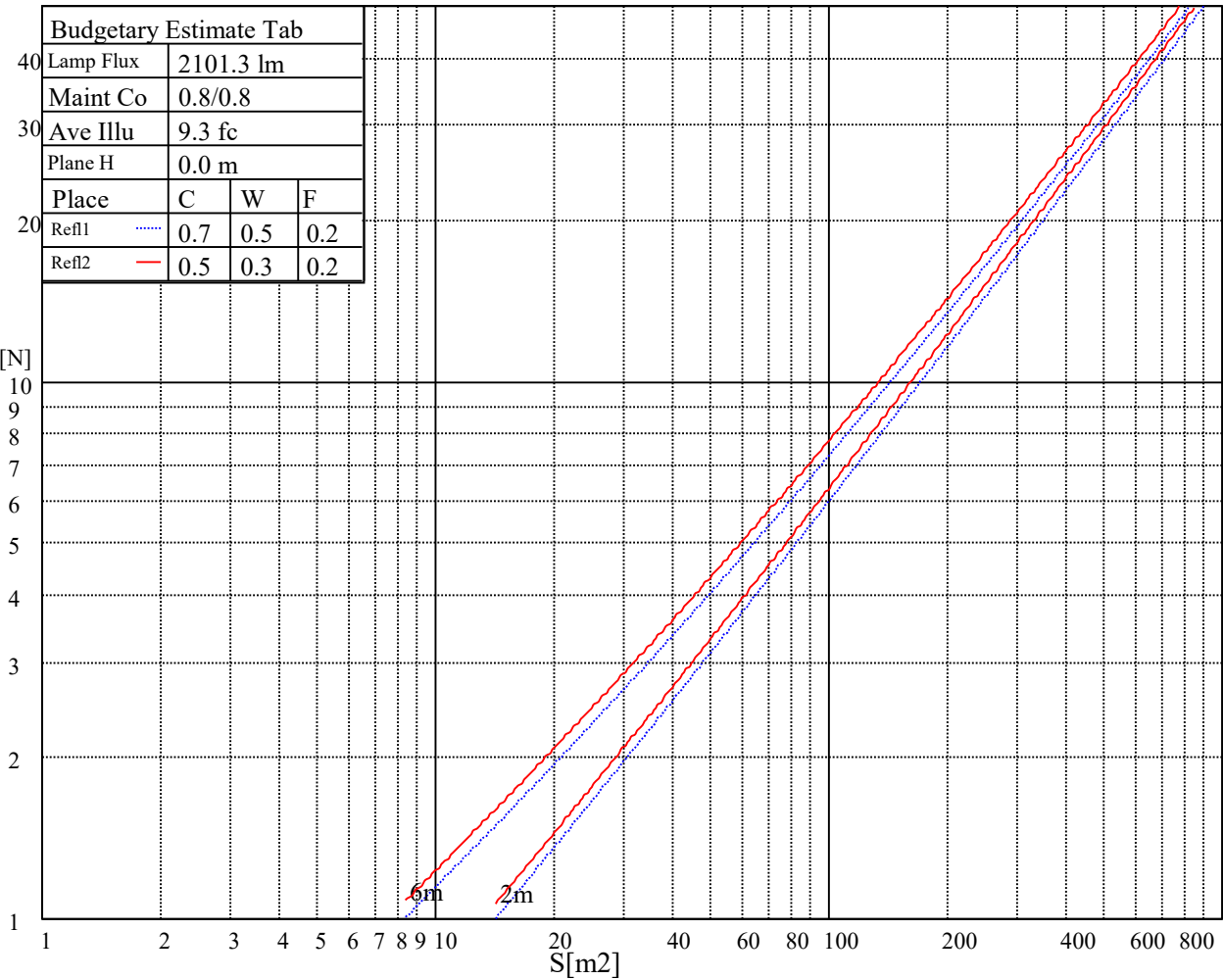
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

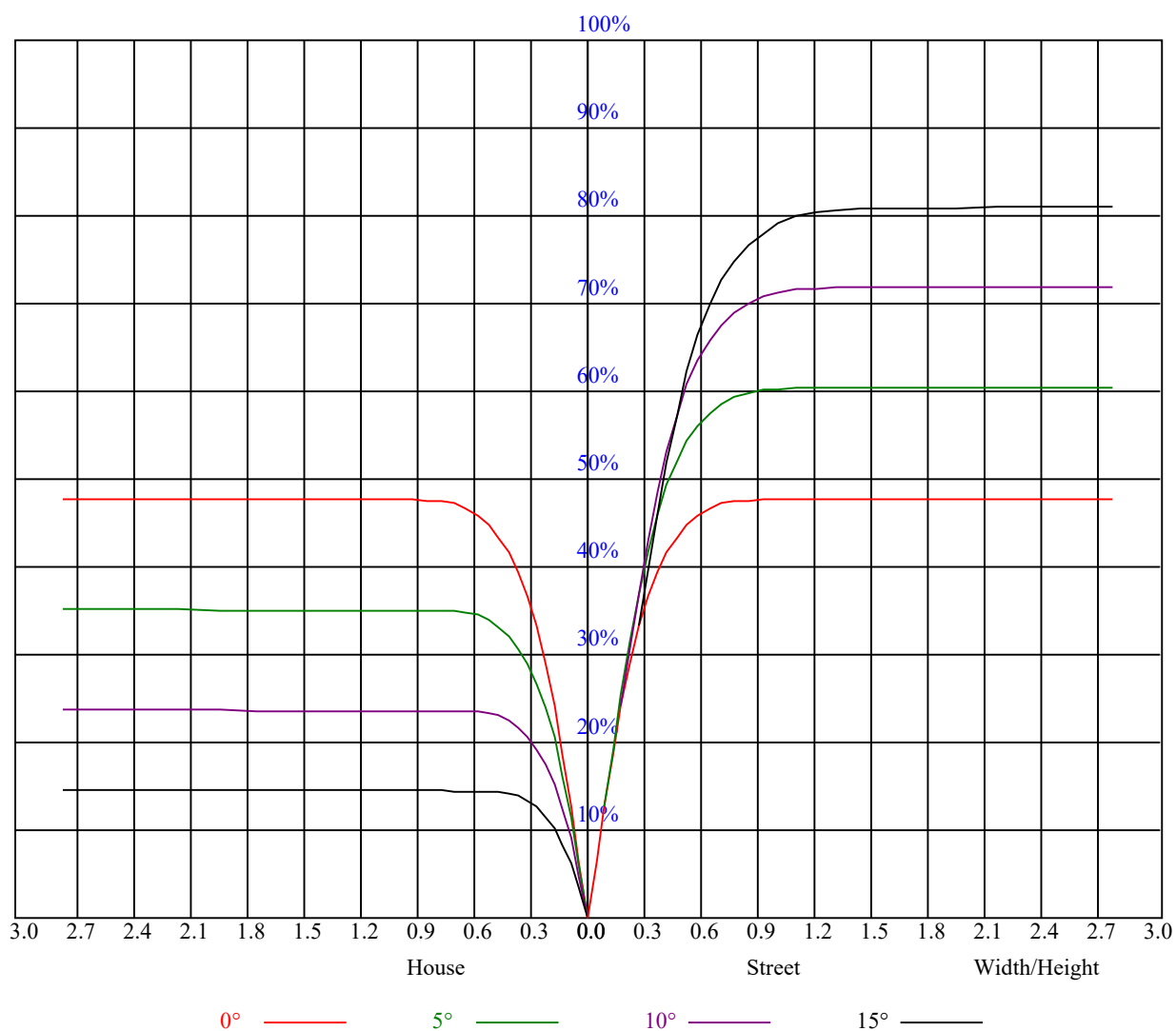
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	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	1.14	1.14	1.14	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	0.98	0.98	0.98	0.96
1	1.07	1.05	1.03	1.05	1.03	1.02	1.01	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.91
2	1.01	0.98	0.96	1.00	0.97	0.94	0.97	0.94	0.92	0.94	0.92	0.90	0.91	0.90	0.89	0.87
3	0.96	0.92	0.89	0.95	0.91	0.89	0.93	0.90	0.87	0.90	0.88	0.86	0.88	0.86	0.85	0.83
4	0.92	0.87	0.84	0.91	0.87	0.84	0.89	0.85	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.80
5	0.87	0.83	0.80	0.87	0.82	0.79	0.85	0.81	0.79	0.83	0.80	0.78	0.82	0.79	0.77	0.76
6	0.84	0.79	0.76	0.83	0.79	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.73
7	0.80	0.75	0.72	0.80	0.75	0.72	0.78	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
8	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.67
9	0.74	0.69	0.66	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65
10	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.69	0.66	0.63	0.62



Intensity data(cd)

Appendix Page: 16 Total:18

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	4815.51	4813.19	4795.09	4761.68	4734.30	4675.37	4594.16	4502.28	4373.28
45.0	4824.32	4818.29	4819.22	4800.19	4779.78	4759.82	4700.89	4653.10	4576.07
90.0	4820.61	4811.33	4804.83	4783.49	4746.37	4701.82	4640.57	4557.04	4456.35
135.0	4816.90	4822.47	4813.65	4808.55	4793.70	4772.35	4730.12	4680.94	4607.62
180.0	4815.51	4824.79	4820.15	4811.79	4793.70	4779.78	4717.60	4682.33	4602.52
225.0	4824.32	4811.79	4794.63	4765.39	4721.31	4649.38	4549.15	4428.97	4272.12
270.0	4820.61	4821.08	4813.19	4789.52	4760.29	4711.10	4640.10	4568.64	4456.35
315.0	4816.90	4810.40	4785.34	4760.75	4723.16	4656.81	4576.53	4460.99	4374.21
360.0	4815.51	4813.19	4795.09	4761.68	4734.30	4675.37	4594.16	4502.28	4373.28
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4216.90	4027.58	3822.48	3596.49	3356.59	3118.07	2971.44	2625.27	2376.08
45.0	4476.30	4347.30	4189.99	4006.23	3803.91	3599.28	3369.11	3139.88	2912.04
90.0	4338.94	4188.13	4023.87	3828.97	3619.23	3406.24	3270.28	2951.48	2712.97
135.0	4563.07	4413.19	4319.92	4149.62	3948.69	3718.07	3472.13	3209.95	2939.88
180.0	4440.10	4352.40	4178.39	3975.14	3759.83	3514.82	3266.10	3014.59	2763.09
225.0	4086.05	3869.34	3639.65	3390.92	3143.13	2891.62	2691.16	2407.64	2225.27
270.0	4300.43	4119.46	3905.07	3685.12	3441.04	3182.11	2927.82	2665.64	2410.89
315.0	4131.52	3910.64	3765.86	3512.04	3240.11	2962.16	2672.60	2396.50	2119.47
360.0	4216.90	4027.58	3822.48	3596.49	3356.59	3118.07	2971.44	2625.27	2376.08
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2232.23	1891.63	1752.42	1534.33	1338.50	1181.66	1062.40	891.59	891.59
45.0	2682.35	2452.18	2233.16	2013.21	1802.54	1681.43	1428.06	1281.89	1211.36
90.0	2570.05	2334.78	2098.13	1860.08	1630.38	1425.28	1248.95	1113.91	903.94
135.0	2660.54	2385.36	2116.69	1849.41	1598.83	1370.99	1174.24	1019.71	909.27
180.0	2518.08	2277.24	2043.37	1817.39	1601.15	1409.50	1245.23	1115.77	1017.86
225.0	2002.54	1746.39	1593.26	1418.78	1274.93	1162.64	1074.01	922.27	910.48
270.0	2156.60	1907.87	1674.00	1459.62	1275.86	1124.59	1011.82	959.85	863.33
315.0	1852.19	1596.04	1359.39	1162.64	891.87	891.87	824.03	774.61	749.51
360.0	2232.23	1891.63	1752.42	1534.33	1338.50	1181.66	1062.40	891.59	891.59
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	834.70	787.88	740.23	677.16	597.49	514.94	429.46	346.59	296.42
45.0	1079.11	1032.24	963.57	902.78	850.34	788.62	710.67	621.57	529.69
90.0	903.94	864.96	811.59	774.89	712.89	642.59	574.52	472.76	406.26
135.0	833.64	780.74	740.37	714.84	681.90	646.63	598.84	528.30	453.13
180.0	939.90	876.79	834.10	788.62	741.29	674.47	595.12	511.60	425.29
225.0	889.00	839.90	775.40	693.36	606.26	551.78	459.63	334.20	283.76
270.0	810.43	781.66	740.83	691.18	625.29	546.86	462.87	378.42	296.75
315.0	706.91	691.36	659.30	601.94	533.04	457.26	380.41	300.65	223.25
360.0	834.70	787.88	740.23	677.16	597.49	514.94	429.46	346.59	296.42
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	217.03	143.62	82.13	37.17	20.46	16.33	12.16	9.61	7.93
45.0	438.74	350.11	264.27	264.27	232.25	71.55	39.81	35.45	28.63
90.0	321.39	239.67	163.34	96.70	47.93	22.37	17.54	13.41	10.53
135.0	373.78	294.43	248.95	248.95	83.02	35.54	14.99	11.93	9.47
180.0	339.90	259.16	259.16	111.79	59.30	28.49	22.18	19.44	13.50
225.0	204.96	134.89	79.21	48.45	39.91	32.99	27.15	23.20	19.86
270.0	250.35	250.35	79.54	35.59	18.70	14.90	11.09	8.86	7.05
315.0	151.09	88.21	37.54	14.06	10.53	8.07	5.75	4.69	3.90
360.0	217.03	143.62	82.13	37.17	20.46	16.33	12.16	9.61	7.93

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	6.73	5.89	5.24	4.73	4.22	3.81	3.57	3.29	3.20
45.0	21.76	19.58	16.66	14.48	12.62	11.09	9.79	8.72	7.84
90.0	9.00	7.70	7.01	6.50	5.99	5.71	5.48	5.24	5.06
135.0	7.84	5.99	5.01	4.73	4.18	3.76	3.43	3.16	2.97
180.0	11.00	9.70	8.21	7.15	6.31	5.61	4.97	4.55	4.18
225.0	17.35	15.36	13.69	12.11	10.81	9.74	9.05	8.12	7.42
270.0	5.99	5.43	4.83	4.45	4.08	3.76	3.53	3.34	3.11
315.0	3.48	3.20	3.06	2.83	2.60	2.55	2.37	2.23	2.13
360.0	6.73	5.89	5.24	4.73	4.22	3.81	3.57	3.29	3.20
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	2.88	2.78	2.69	2.60	2.51	2.46	2.41	2.41	2.37
45.0	7.15	6.59	6.08	5.66	5.34	5.15	4.97	4.73	4.69
90.0	4.97	4.83	4.78	4.73	4.59	4.59	4.55	4.36	4.27
135.0	2.97	3.02	3.02	3.02	3.16	3.25	3.25	3.39	3.48
180.0	3.90	3.57	3.39	3.29	3.25	3.20	3.20	3.20	3.20
225.0	7.01	6.45	6.13	5.80	5.43	5.20	4.97	4.73	4.55
270.0	2.97	2.88	2.69	2.60	2.55	2.55	2.46	2.41	2.37
315.0	2.09	1.95	1.86	1.81	1.76	1.76	1.67	1.62	1.62
360.0	2.88	2.78	2.69	2.60	2.51	2.46	2.41	2.41	2.37
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	2.32	2.32	2.37	2.32	2.27	2.23	2.13	1.95	1.76
45.0	4.41	4.32	4.18	4.13	3.94	3.81	3.62	3.48	3.25
90.0	4.18	4.13	3.99	3.85	3.85	3.67	3.43	3.20	2.97
135.0	3.53	3.48	3.43	3.39	3.25	3.11	2.97	2.92	2.78
180.0	3.16	3.16	3.20	3.29	3.25	3.11	3.02	2.88	2.74
225.0	4.27	4.04	3.85	3.57	3.29	3.11	2.78	2.51	2.13
270.0	2.37	2.32	2.32	2.32	2.23	2.18	2.13	2.00	1.72
315.0	1.67	1.62	1.58	1.58	1.58	1.53	1.39	1.30	1.25
360.0	2.32	2.32	2.37	2.32	2.27	2.23	2.13	1.95	1.76
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	1.67	1.48	1.30	1.16	1.07	0.97	0.93	0.88	0.84
45.0	2.92	2.64	2.41	2.09	1.76	1.48	1.30	1.16	1.02
90.0	2.64	2.27	2.04	1.86	1.53	1.39	1.11	1.07	1.02
135.0	2.51	2.32	2.04	1.86	1.58	1.30	1.11	0.97	0.88
180.0	2.51	2.27	2.00	1.76	1.48	1.21	1.02	0.97	0.93
225.0	1.86	1.62	1.39	1.21	0.97	0.93	0.84	0.84	0.79
270.0	1.58	1.44	1.30	1.07	0.88	0.84	0.79	0.74	0.65
315.0	1.21	1.16	0.97	0.84	0.79	0.74	0.70	0.60	0.60
360.0	1.67	1.48	1.30	1.16	1.07	0.97	0.93	0.88	0.84
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	0.84	0.74	0.74	0.60	0.60	0.60	0.84	1.25	1.02
45.0	0.97	0.97	0.84	0.79	0.79	0.70	0.65	0.65	0.65
90.0	0.97	0.93	0.88	0.84	0.79	0.74	0.74	0.70	0.65
135.0	0.84	0.84	0.74	0.70	0.70	0.70	0.65	0.60	0.60
180.0	0.88	0.79	0.79	0.74	0.65	0.70	0.65	0.60	0.46
225.0	0.74	0.74	0.70	0.60	0.56	0.60	0.60	0.60	0.51
270.0	0.60	0.60	0.56	0.56	0.51	0.51	0.46	0.51	0.46
315.0	0.60	0.56	0.51	0.51	0.56	0.46	0.46	0.42	0.37
360.0	0.84	0.74	0.74	0.60	0.60	0.60	0.84	1.25	1.02

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	0.84
45.0	0.65
90.0	0.65
135.0	0.65
180.0	0.51
225.0	0.51
270.0	0.42
315.0	0.42
360.0	0.84