



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: 1654-S	
Luminaire: 92.70.051.00	
Report No: NATA0100	Voltage(V): 37.4000
Test No: GC2018080107	Current(A): 0.2000
LampCAT: BRIDGELUX V4 HD	Power (W): 7.4800
Lamp flux(lm): 732.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 32	Width(mm): 32
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 641.29
Efficiency(%): 87.61%
Lumens(lm)/Power(W): 86.35
Central intensity(cd): 4928.924
Maximum intensity(cd): 4928.924
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=15.7
[C90/270]Total=15.7
Field angle(10%Imax): [C0/180]Total=30.5
[C90/270]Total=30.5
Maximum s/h(1/2): C0_180=0.27 C90_270=0.27
Maximum s/h(1/4): C0_180=0.28 C90_270=0.28
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.24%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.724%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4928.924	4.717	4.717	.644%	.736%
2.0	4700.578	35.978	40.695	4.915%	6.346%
4.0	4075.756	62.353	103.048	8.518%	16.069%
6.0	3271.520	74.998	178.046	10.246%	27.764%
8.0	2400.253	73.262	251.307	10.008%	39.188%
10.0	1576.533	60.040	311.347	8.202%	48.550%
12.0	1029.974	46.965	358.312	6.416%	55.874%
14.0	635.550	33.720	392.032	4.607%	61.132%
16.0	410.735	24.829	416.861	3.392%	65.004%
18.0	319.017	21.620	438.482	2.954%	68.375%
20.0	282.852	21.217	459.698	2.898%	71.683%
22.0	261.731	21.503	481.201	2.938%	75.037%
24.0	248.931	22.205	503.406	3.034%	78.499%
26.0	240.514	23.123	526.53	3.159%	82.105%
28.0	232.042	23.891	550.421	3.264%	85.830%
30.0	220.219	24.148	574.569	3.299%	89.596%
32.0	183.145	21.285	595.854	2.908%	92.915%
34.0	119.342	14.636	610.49	1.999%	95.197%
36.0	58.690	7.566	618.056	1.034%	96.377%
38.0	21.128	2.853	620.909	.390%	96.822%
40.0	10.681	1.506	622.414	.206%	97.057%
42.0	8.334	1.223	623.637	.167%	97.247%
44.0	6.676	1.017	624.654	.139%	97.406%
46.0	5.891	0.929	625.584	.127%	97.551%
48.0	5.347	0.872	626.455	.119%	97.687%
50.0	4.989	0.838	627.293	.115%	97.818%
52.0	4.645	0.803	628.096	.110%	97.943%
54.0	4.522	0.802	628.899	.110%	98.068%
56.0	4.329	0.787	629.686	.108%	98.191%
58.0	4.115	0.765	630.451	.105%	98.310%
60.0	3.985	0.757	631.208	.103%	98.428%
62.0	3.840	0.744	631.951	.102%	98.544%
64.0	3.730	0.735	632.687	.100%	98.659%
66.0	3.661	0.734	633.42	.100%	98.773%
68.0	3.551	0.722	634.142	.099%	98.886%
70.0	3.482	0.718	634.86	.098%	98.998%
72.0	3.413	0.712	635.572	.097%	99.109%
74.0	3.338	0.704	636.276	.096%	99.218%

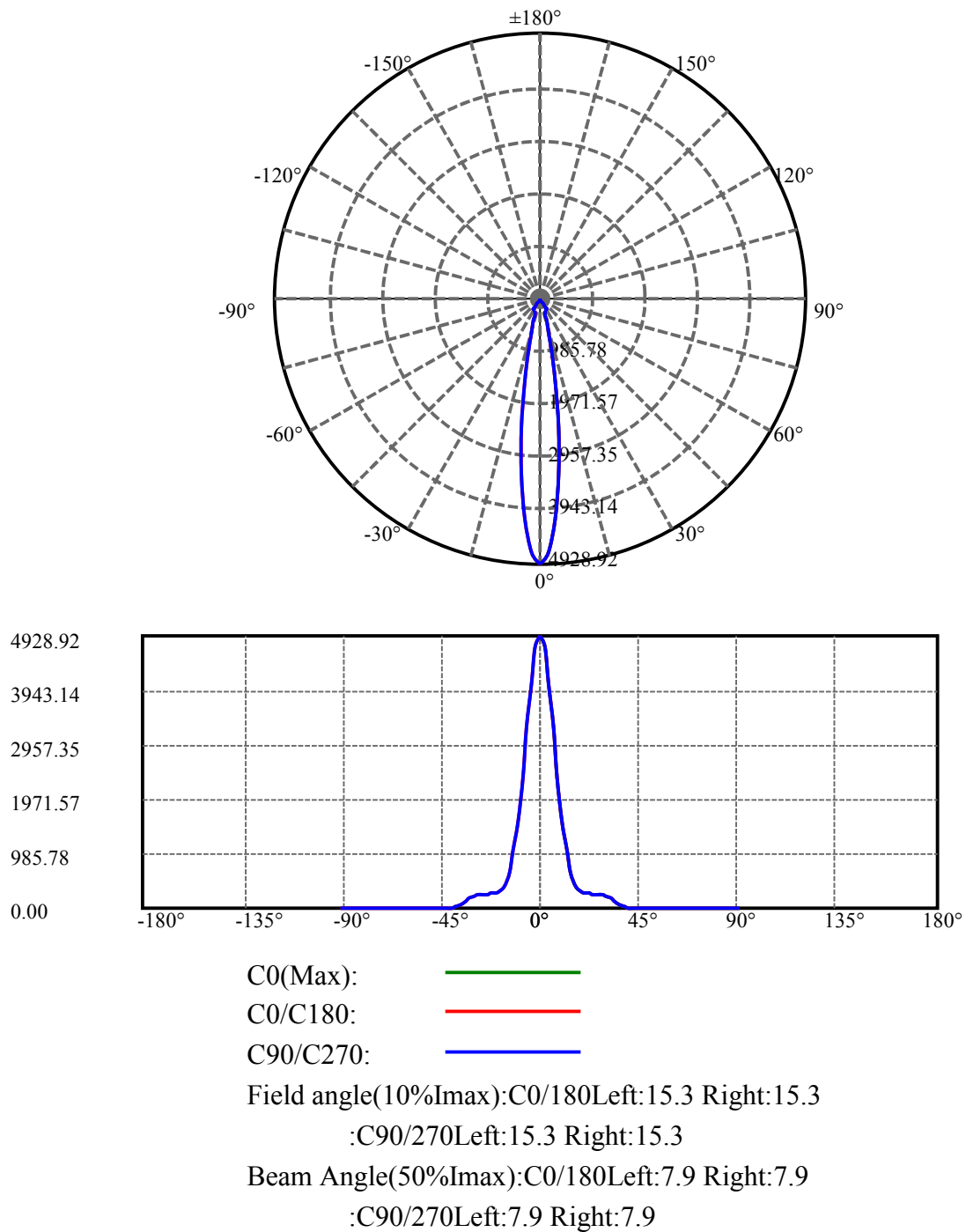
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.276	0.697	636.973	.095%	99.327%
78.0	3.235	0.694	637.667	.095%	99.435%
80.0	3.166	0.684	638.35	.093%	99.542%
82.0	3.118	0.677	639.027	.092%	99.647%
84.0	3.083	0.672	639.7	.092%	99.752%
86.0	2.980	0.652	640.352	.089%	99.854%
88.0	2.863	0.627	640.979	.086%	99.952%
90.0	2.822	0.309	641.289	.042%	100.000%

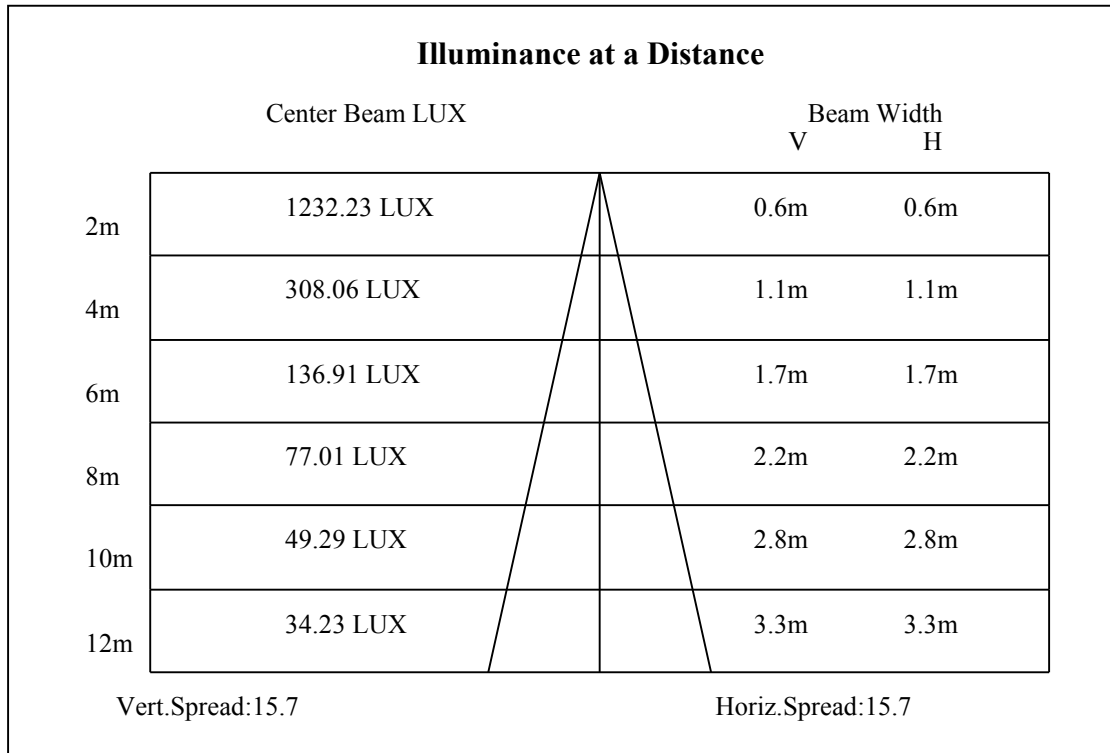
ZONAL LUMEN SUMMARY

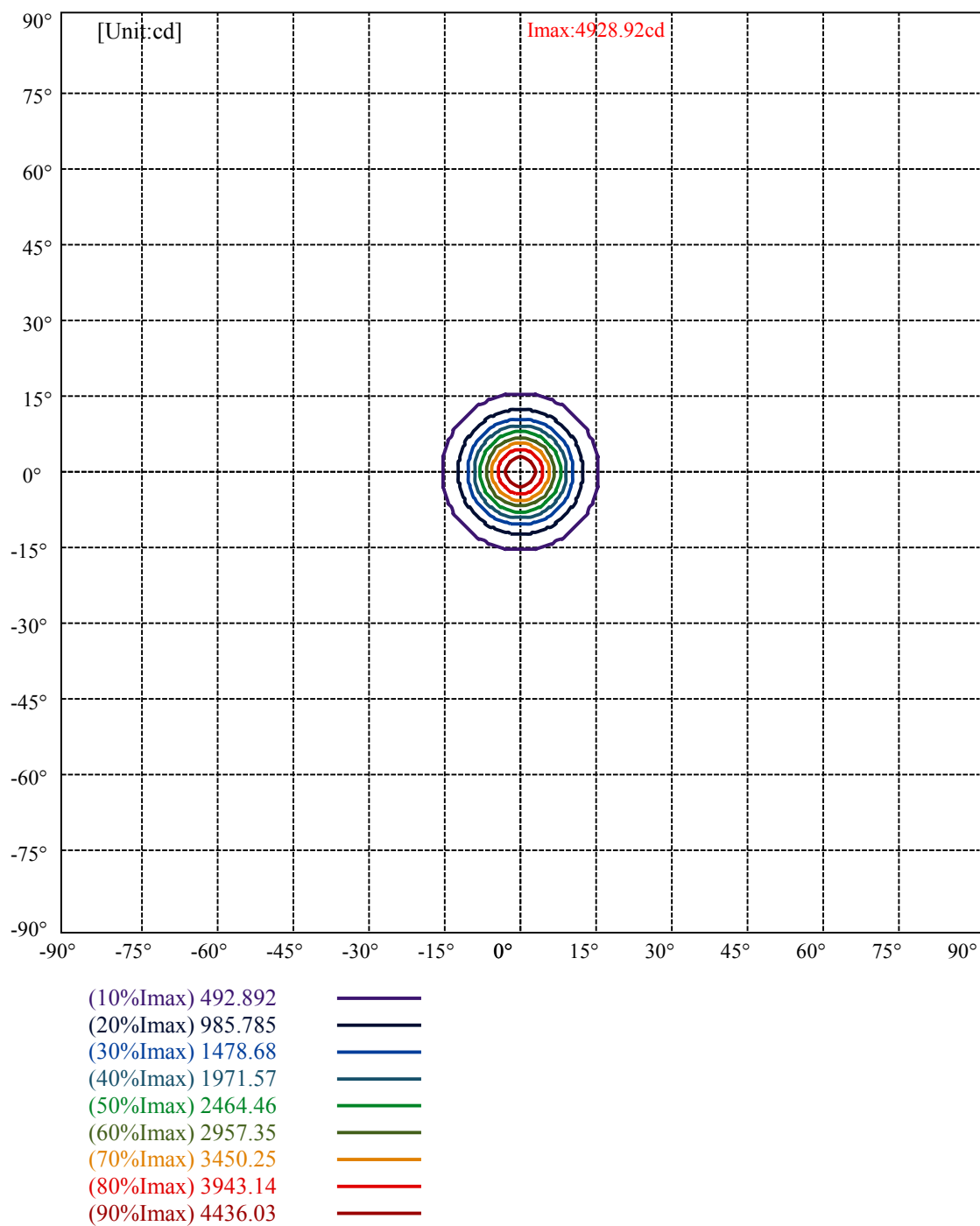
Zone	Lumens	%Lamp	%Fixt
0-30	574.57	78.49%	89.60%
0-40	622.41	85.03%	97.06%
0-60	631.21	86.23%	98.43%
0-90	640.98	87.57%	99.95%
0-120	640.98	87.57%	99.95%
0-180	641.29	87.61%	100.00%
60-90	10.53	1.44%	1.64%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.83	513.03	70.09%	80.00%

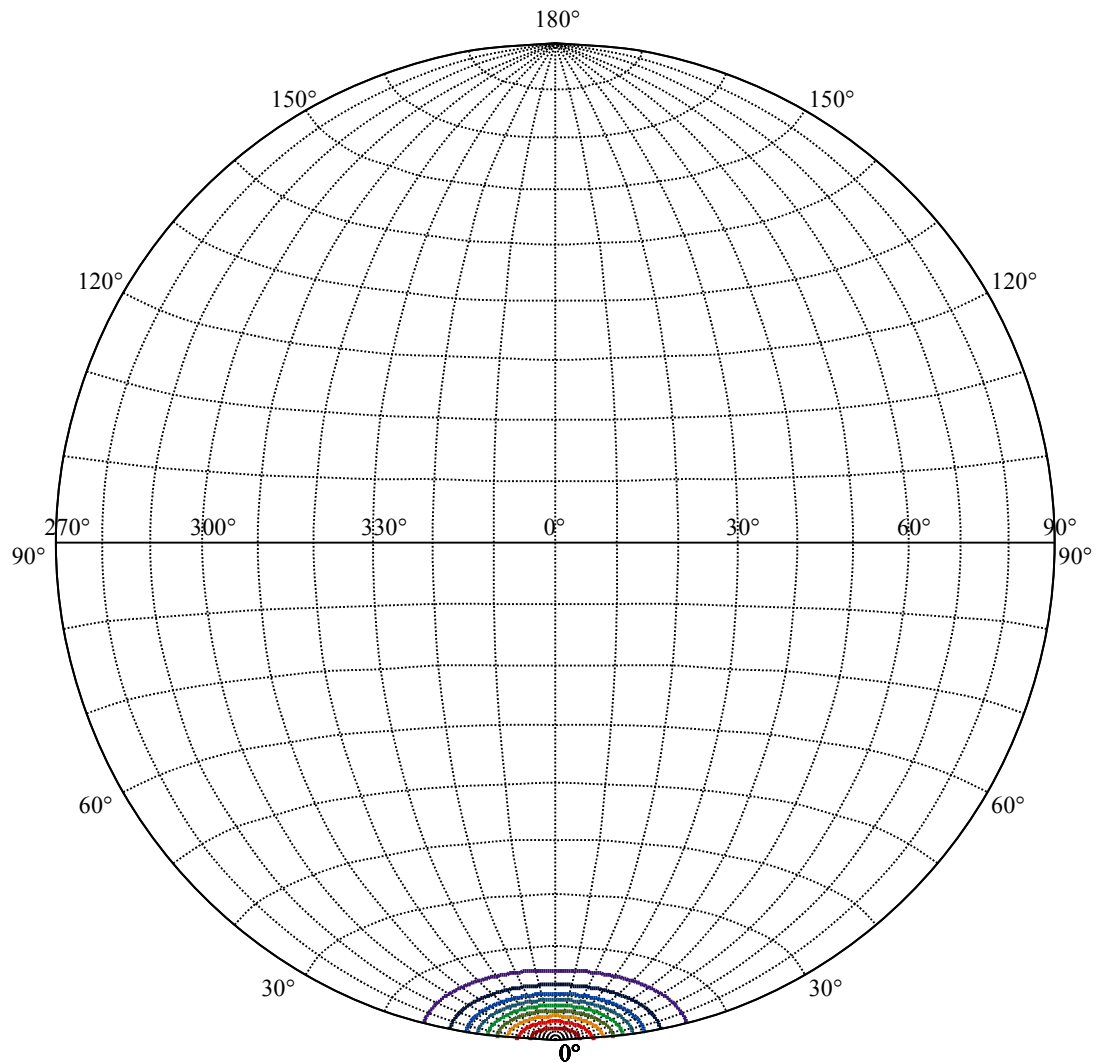
ZONAL LUMEN SUMMARY

0-10	311.35
10-20	148.35
20-30	114.87
30-40	47.84
40-50	4.88
50-60	3.91
60-70	3.65
70-80	3.49
80-90	2.63
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









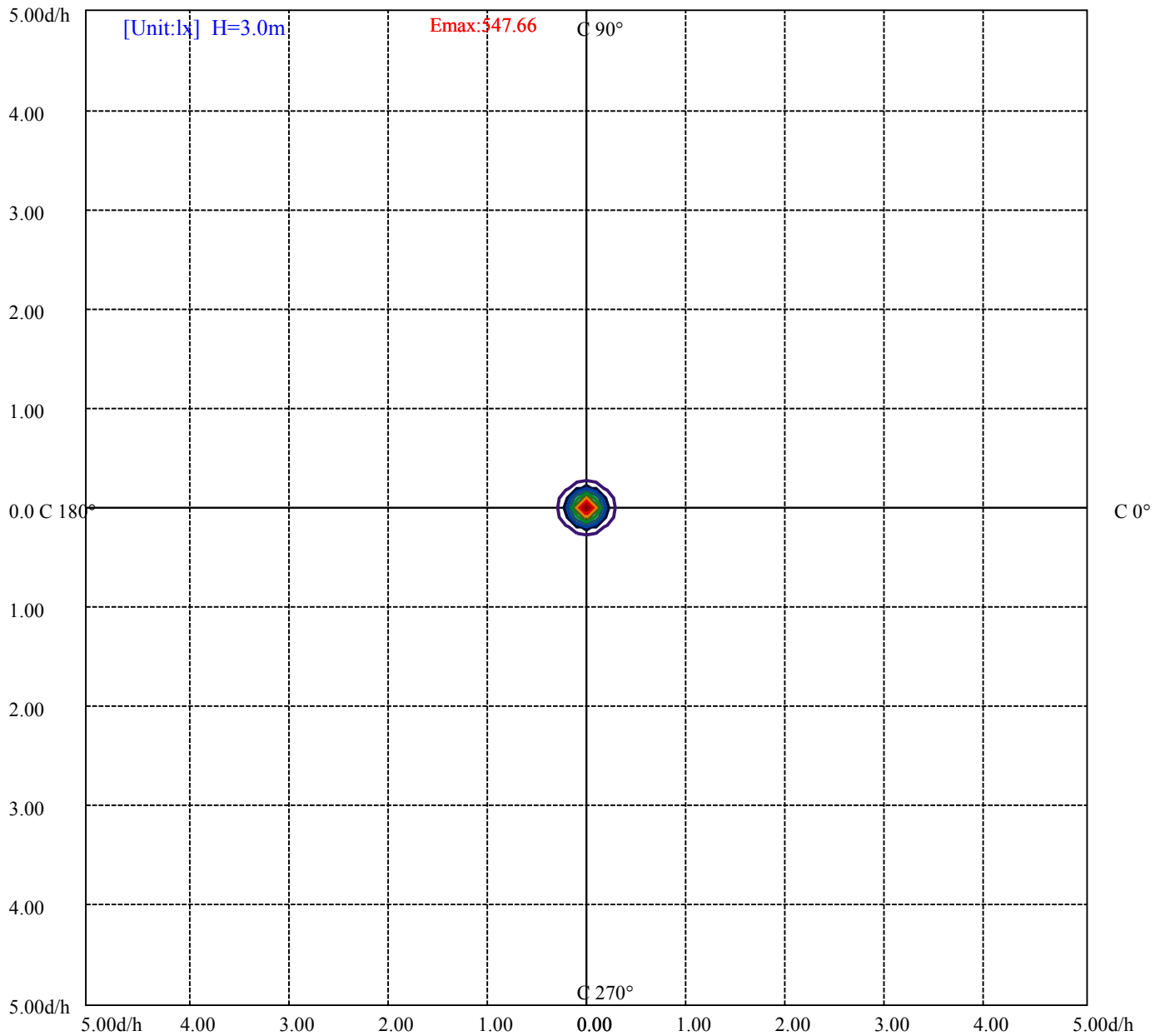
House

[Unit:cd]

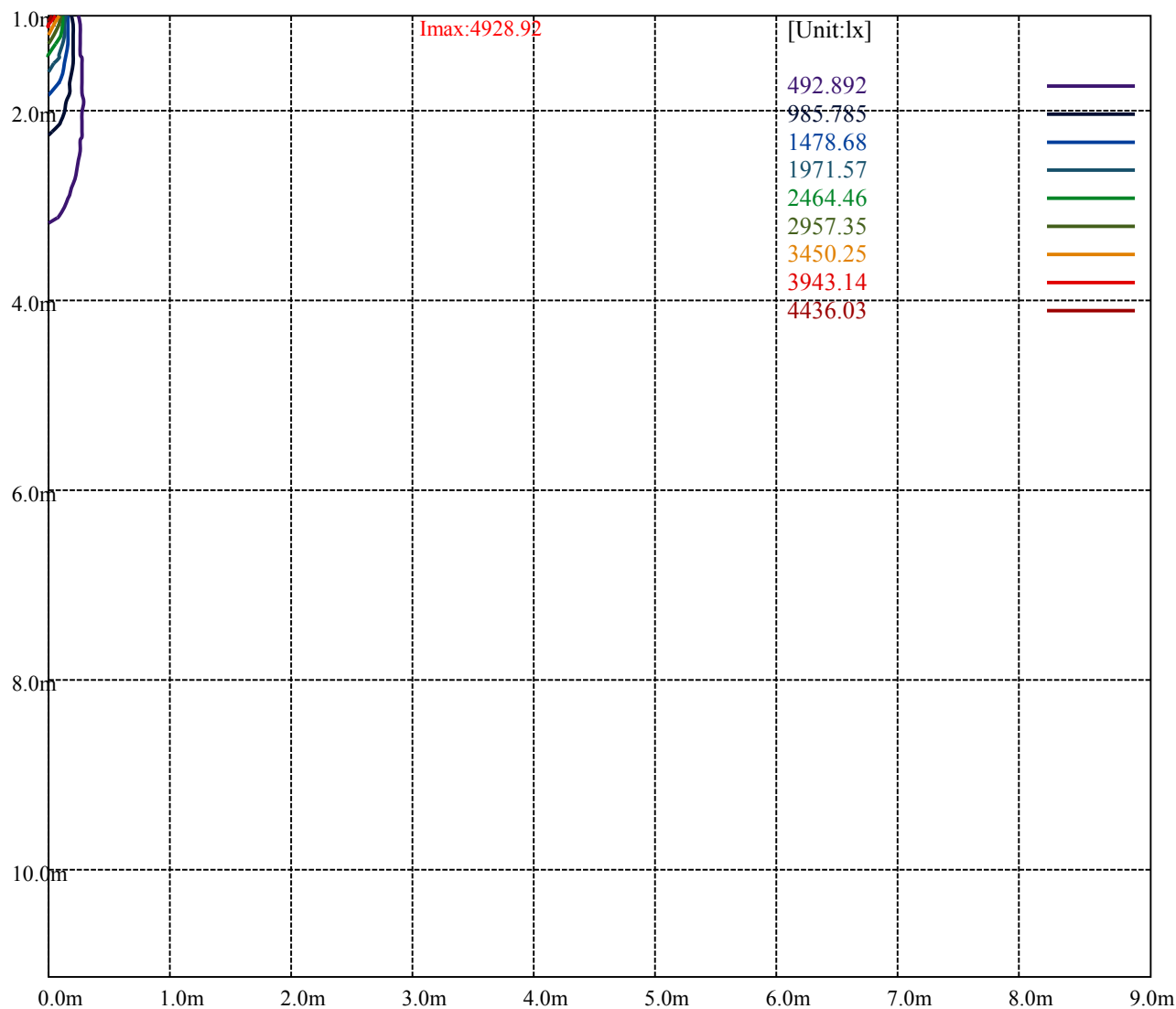
Road

Imax:4928.92

(10%Imax)	492.892	—
(20%Imax)	985.785	—
(30%Imax)	1478.68	—
(40%Imax)	1971.57	—
(50%Imax)	2464.46	—
(60%Imax)	2957.35	—
(70%Imax)	3450.25	—
(80%Imax)	3943.14	—
(90%Imax)	4436.03	—



(10%Emax) 54.76567	—
(20%Emax) 109.5312	—
(30%Emax) 164.2967	—
(40%Emax) 219.0622	—
(50%Emax) 273.8278	—
(60%Emax) 328.5934	—
(70%Emax) 383.36	—
(80%Emax) 438.1255	—
(90%Emax) 492.8911	—



Luminance Table

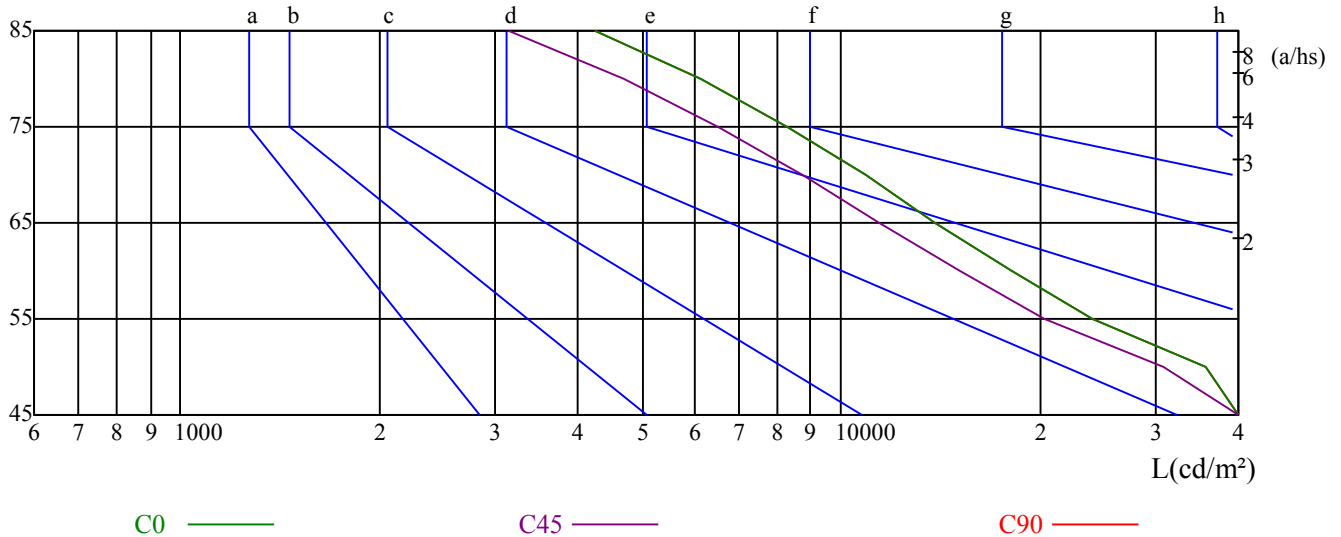
γ	45	50	55	60	65	70	75	80	85
C0	54391	35651	23966	18140	13910	10896	8303	6134	4237
C45	47694	30810	20394	15182	11430	8771	6528	4688	3130
C90	54391	35651	23966	18140	13910	10896	8303	6134	4237

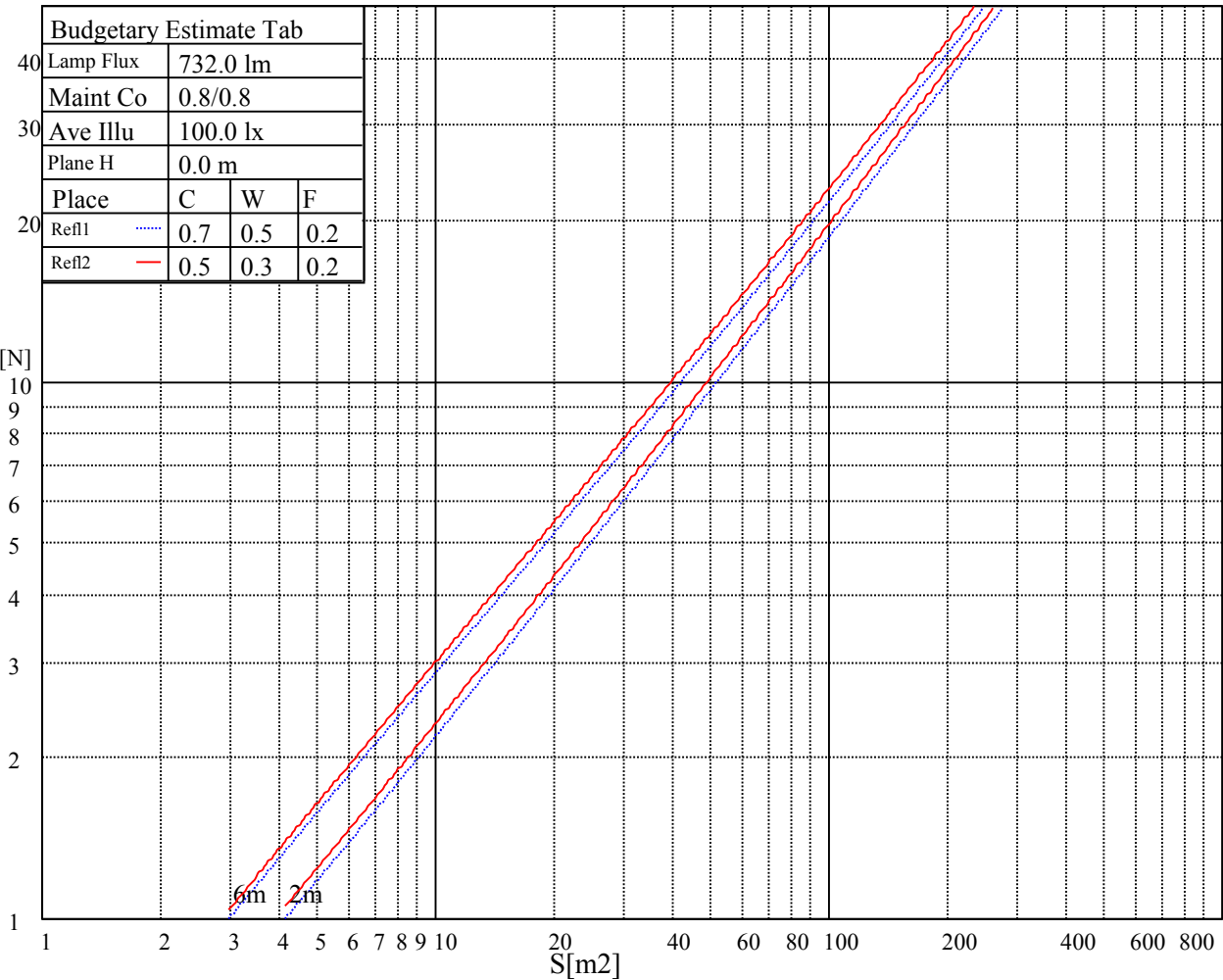
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
29207	29207	29207	24195	24195	24195	29072	29072	29072

Glare Table

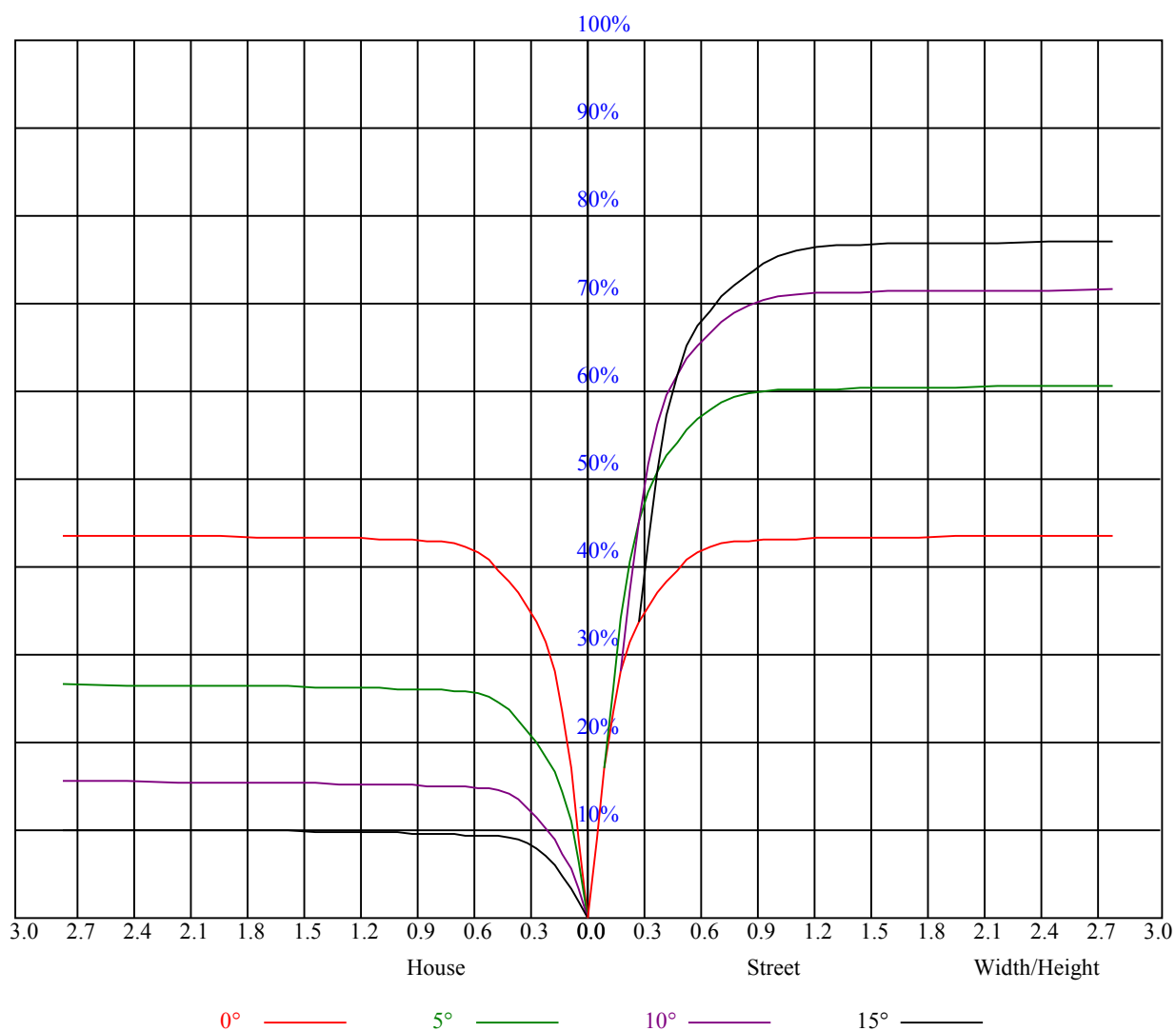
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.98	0.96	0.95	0.97	0.95	0.93	0.93	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.94	0.91	0.88	0.92	0.90	0.87	0.89	0.87	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.81
3	0.90	0.86	0.83	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.82	0.81	0.79	0.78
4	0.86	0.82	0.80	0.85	0.82	0.79	0.83	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.77	0.75
5	0.83	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.73
6	0.80	0.77	0.74	0.80	0.76	0.74	0.79	0.75	0.73	0.77	0.75	0.73	0.76	0.74	0.72	0.71
7	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.75	0.72	0.70	0.69
8	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.69	0.68
9	0.74	0.70	0.68	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.66
10	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.70	0.67	0.65	0.65



Nata 1654-S

Intensity data(cd)									
Appendix Page: 15 Total:16									
C/ γ (°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	4842.21	5031.05	4739.81	4015.81	3230.71	2325.03	1573.51	1011.39	605.07
45.0	4969.39	4967.19	4486.00	3722.91	2844.21	1947.34	1288.87	770.24	463.57
90.0	4967.19	4718.33	4055.45	3255.48	2311.82	1495.33	958.64	565.59	371.36
135.0	4936.91	4567.48	3860.55	2973.05	2165.37	1384.12	863.28	523.04	354.56
180.0	4842.21	4225.58	3340.27	2519.93	1667.66	996.80	655.72	417.77	328.36
225.0	4969.39	4515.18	3693.73	2803.47	1958.36	1089.24	763.19	467.43	332.32
270.0	4967.19	4751.92	4130.33	3340.82	2412.57	1617.01	1061.49	628.19	391.45
315.0	4936.91	4827.90	4299.90	3540.68	2611.33	1757.40	1075.09	700.76	439.18
360.0	4842.21	5031.05	4739.81	4015.81	3230.71	2325.03	1573.51	1011.39	605.07
C/ γ (°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	407.97	328.69	291.80	265.92	252.54	242.85	233.93	226.34	182.68
45.0	334.74	285.74	264.33	251.77	245.61	238.94	232.12	218.52	155.20
90.0	293.01	259.65	237.84	226.34	218.30	210.59	203.98	163.24	103.07
135.0	301.16	278.03	259.98	250.23	240.65	231.84	221.16	167.76	95.14
180.0	296.26	274.02	258.43	249.02	239.88	232.78	199.91	130.32	66.62
225.0	285.14	267.52	257.61	253.98	249.02	242.52	228.21	170.40	92.49
270.0	305.01	278.59	252.27	233.60	227.33	216.37	210.26	181.47	117.82
315.0	328.85	290.59	271.59	260.58	250.78	240.43	232.17	207.12	141.72
360.0	407.97	328.69	291.80	265.92	252.54	242.85	233.93	226.34	182.68
C/ γ (°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	116.17	50.60	13.27	9.52	7.49	5.56	4.96	4.46	4.18
45.0	85.61	27.36	11.01	9.25	7.10	6.00	5.51	5.07	4.73
90.0	43.82	16.13	11.73	9.47	7.54	7.10	6.33	5.89	5.18
135.0	42.89	11.01	9.25	6.94	5.56	5.07	4.73	4.46	4.18
180.0	15.80	9.41	7.54	5.23	4.68	4.40	4.18	4.02	3.96
225.0	30.78	11.07	9.36	7.21	5.84	5.45	5.01	4.79	4.62
270.0	59.08	19.82	12.50	9.91	8.15	7.43	6.66	6.33	5.78
315.0	75.37	23.62	10.79	9.14	7.05	6.11	5.40	4.90	4.51
360.0	116.17	50.60	13.27	9.52	7.49	5.56	4.96	4.46	4.18
C/ γ (°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	4.02	3.91	3.80	3.74	3.69	3.63	3.58	3.58	3.52
45.0	4.57	4.29	4.13	3.91	3.80	3.63	3.58	3.47	3.47
90.0	5.18	4.90	4.51	4.35	4.07	3.85	3.74	3.58	3.52
135.0	4.13	3.96	3.85	3.80	3.69	3.58	3.52	3.47	3.41
180.0	3.85	3.80	3.74	3.74	3.69	3.69	3.63	3.58	3.52
225.0	4.40	4.35	4.07	4.02	3.85	3.85	3.80	3.69	3.47
270.0	5.67	5.23	4.79	4.46	4.18	3.96	3.85	3.58	3.52
315.0	4.35	4.18	4.02	3.85	3.74	3.63	3.58	3.47	3.41
360.0	4.02	3.91	3.80	3.74	3.69	3.63	3.58	3.58	3.52
C/ γ (°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	3.47	3.41	3.36	3.30	3.25	3.14	3.08	3.03	2.97
45.0	3.41	3.36	3.30	3.25	3.19	3.14	3.08	3.03	2.86
90.0	3.41	3.36	3.36	3.30	3.25	3.14	3.03	2.92	2.81
135.0	3.36	3.25	3.19	3.14	3.08	3.03	3.03	2.97	2.86
180.0	3.47	3.41	3.30	3.25	3.19	3.25	3.36	3.03	2.86
225.0	3.41	3.30	3.19	3.19	3.08	3.08	3.08	2.97	2.86
270.0	3.47	3.36	3.30	3.30	3.19	3.14	3.03	2.97	2.81
315.0	3.30	3.25	3.19	3.14	3.08	3.03	2.97	2.92	2.86
360.0	3.47	3.41	3.36	3.30	3.25	3.14	3.08	3.03	2.97

Intensity data(cd)

Appendix Page: 16 Total:16

C/ γ (°)	90.0
0.0	2.92
45.0	2.86
90.0	2.75
135.0	2.81
180.0	2.81
225.0	2.81
270.0	2.81
315.0	2.81
360.0	2.92