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## Nata

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LumCAT: 3-1548-A3  
Luminaire: 99.02.73.172+92.76.365.00  
Report No: NATA0100  
Test No: GC2018072505  
LampCAT: BRIDGELUX V9 HD  
Lamp flux(lm): 1153.0  
Number of Lamps: 1  
Length(mm): 79  
Phm Type: C

Voltage(V): 34.0000  
Current(A): 0.2900  
Power (W): 9.8600  
PF: 0.0000  
Ballast type: DC  
Width(mm): 79  
Height(mm): 0

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## Photometric Results

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Lumens(lm): 1041.45  
Efficiency(%): 90.33%  
Lumens(lm)/Power(W): 106.85  
Central intensity(cd): 12822.640  
Maximum intensity(cd): 12822.640  
Angle of maximum intensity: C=0.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=11.2  
                                  [C90/270]Total=11.2  
Field angle(10%Imax): [C0/180]Total=22.4  
                                  [C90/270]Total=22.4  
Maximum s/h(1/2): C0\_180=0.19 C90\_270=0.19  
Maximum s/h(1/4): C0\_180=0.20 C90\_270=0.20  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 91.38%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 97.577%

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Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2018/7/25  
Humidity(%): 60.0%

Operator: NT07  
Distance(m): 7.42

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	12822.636	12.271	12.271	1.064%	1.178%
2.0	11697.833	89.534	101.805	7.765%	9.775%
4.0	8926.019	136.555	238.36	11.843%	22.887%
6.0	5747.888	131.767	370.128	11.428%	35.540%
8.0	3355.481	102.418	472.545	8.883%	45.374%
10.0	1703.376	64.870	537.416	5.626%	51.603%
12.0	1003.713	45.767	583.183	3.969%	55.997%
14.0	733.668	38.926	622.109	3.376%	59.735%
16.0	589.861	35.658	657.766	3.093%	63.159%
18.0	494.496	33.513	691.279	2.907%	66.376%
20.0	438.786	32.913	724.192	2.855%	69.537%
22.0	408.986	33.601	757.793	2.914%	72.763%
24.0	392.139	34.980	792.773	3.034%	76.122%
26.0	378.664	36.405	829.178	3.157%	79.618%
28.0	365.685	37.651	866.829	3.266%	83.233%
30.0	353.318	38.744	905.573	3.360%	86.953%
32.0	338.239	39.310	944.883	3.409%	90.727%
34.0	292.824	35.912	980.794	3.115%	94.176%
36.0	186.972	24.102	1004.896	2.090%	96.490%
38.0	76.866	10.379	1015.275	.900%	97.487%
40.0	22.091	3.114	1018.389	.270%	97.786%
42.0	11.624	1.706	1020.095	.148%	97.949%
44.0	8.024	1.223	1021.318	.106%	98.067%
46.0	5.671	0.895	1022.212	.078%	98.153%
48.0	5.024	0.819	1023.031	.071%	98.231%
50.0	4.859	0.816	1023.847	.071%	98.310%
52.0	4.755	0.822	1024.669	.071%	98.389%
54.0	4.659	0.827	1025.496	.072%	98.468%
56.0	4.604	0.837	1026.333	.073%	98.548%
58.0	4.563	0.849	1027.182	.074%	98.630%
60.0	4.522	0.859	1028.04	.074%	98.712%
62.0	4.473	0.866	1028.907	.075%	98.795%
64.0	4.466	0.880	1029.787	.076%	98.880%
66.0	4.432	0.888	1030.675	.077%	98.965%
68.0	4.425	0.900	1031.575	.078%	99.052%
70.0	4.411	0.909	1032.484	.079%	99.139%
72.0	4.418	0.922	1033.406	.080%	99.227%
74.0	4.411	0.930	1034.336	.081%	99.317%

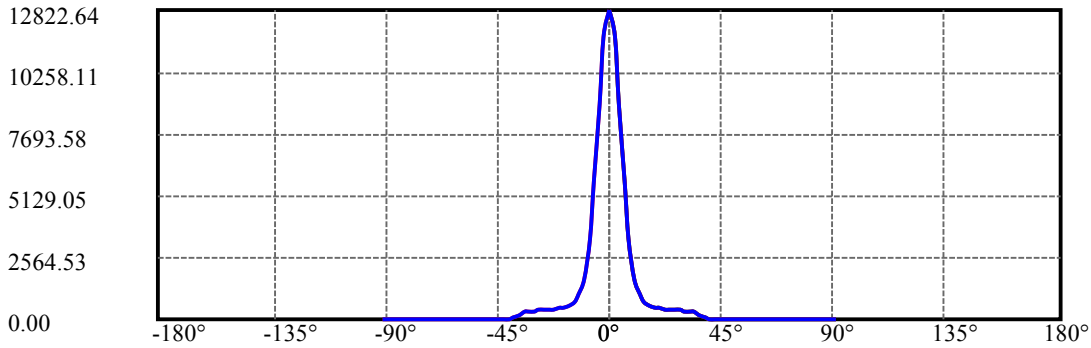
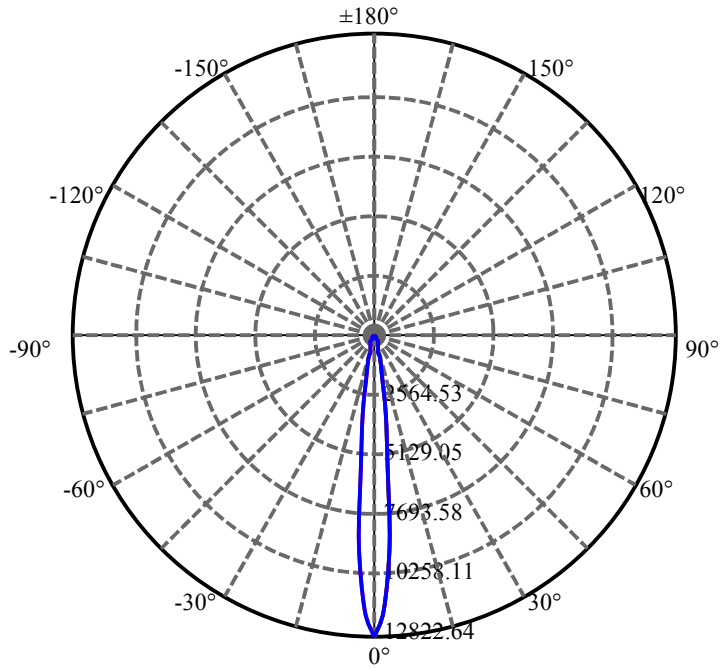
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.398	0.936	1035.271	.081%	99.407%
78.0	4.398	0.943	1036.215	.082%	99.497%
80.0	4.384	0.947	1037.162	.082%	99.588%
82.0	4.377	0.951	1038.112	.082%	99.679%
84.0	4.370	0.953	1039.065	.083%	99.771%
86.0	4.377	0.958	1040.023	.083%	99.863%
88.0	4.343	0.952	1040.975	.083%	99.954%
90.0	4.349	0.477	1041.452	.041%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	905.57	78.54%	86.95%
0-40	1018.39	88.33%	97.79%
0-60	1028.04	89.16%	98.71%
0-90	1040.97	90.28%	99.95%
0-120	1040.97	90.28%	99.95%
0-180	1041.45	90.33%	100.00%
60-90	13.79	1.20%	1.32%
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%
0-26.21	833.16	72.26%	80.00%

ZONAL LUMEN SUMMARY

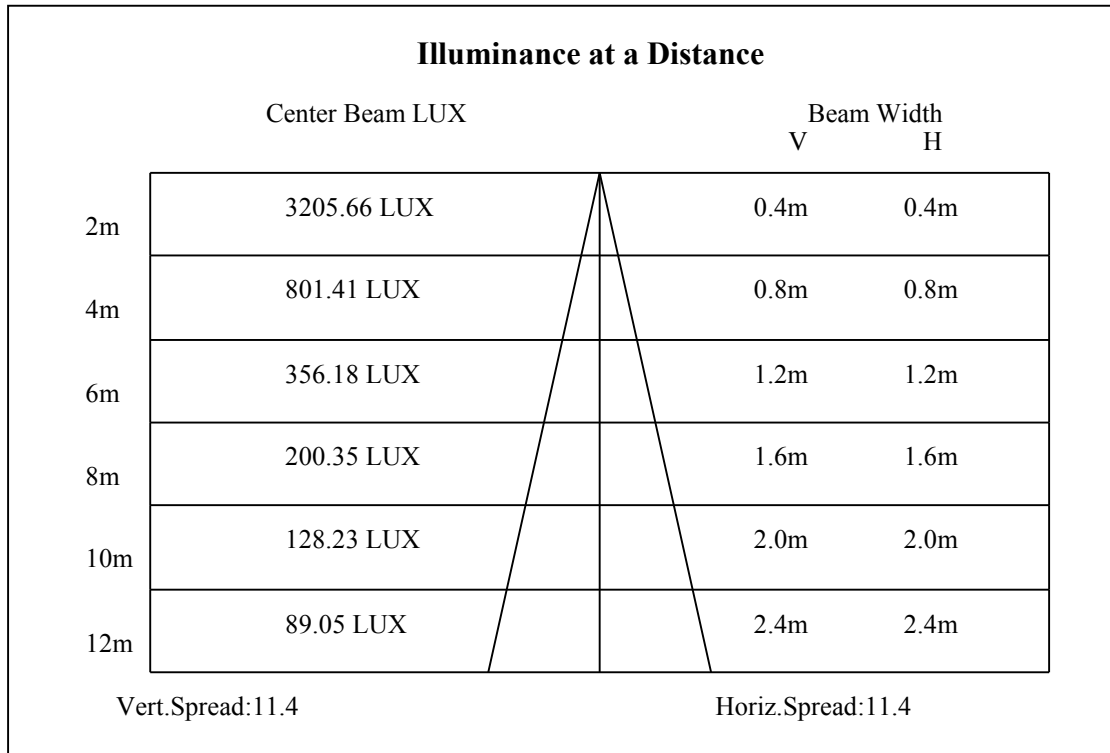
0-10	537.42
10-20	186.78
20-30	181.38
30-40	112.82
40-50	5.46
50-60	4.19
60-70	4.44
70-80	4.68
80-90	3.81
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

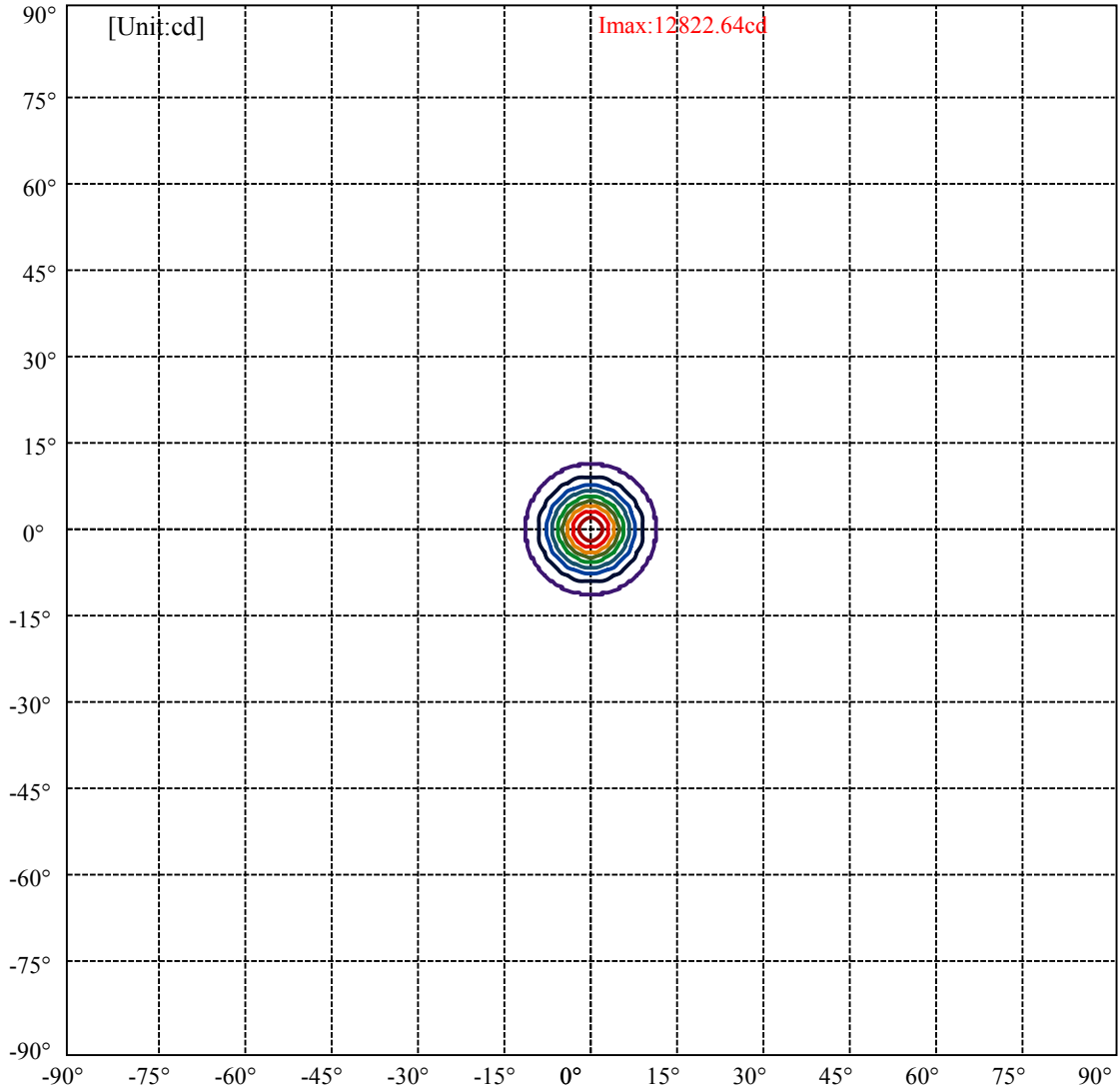


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

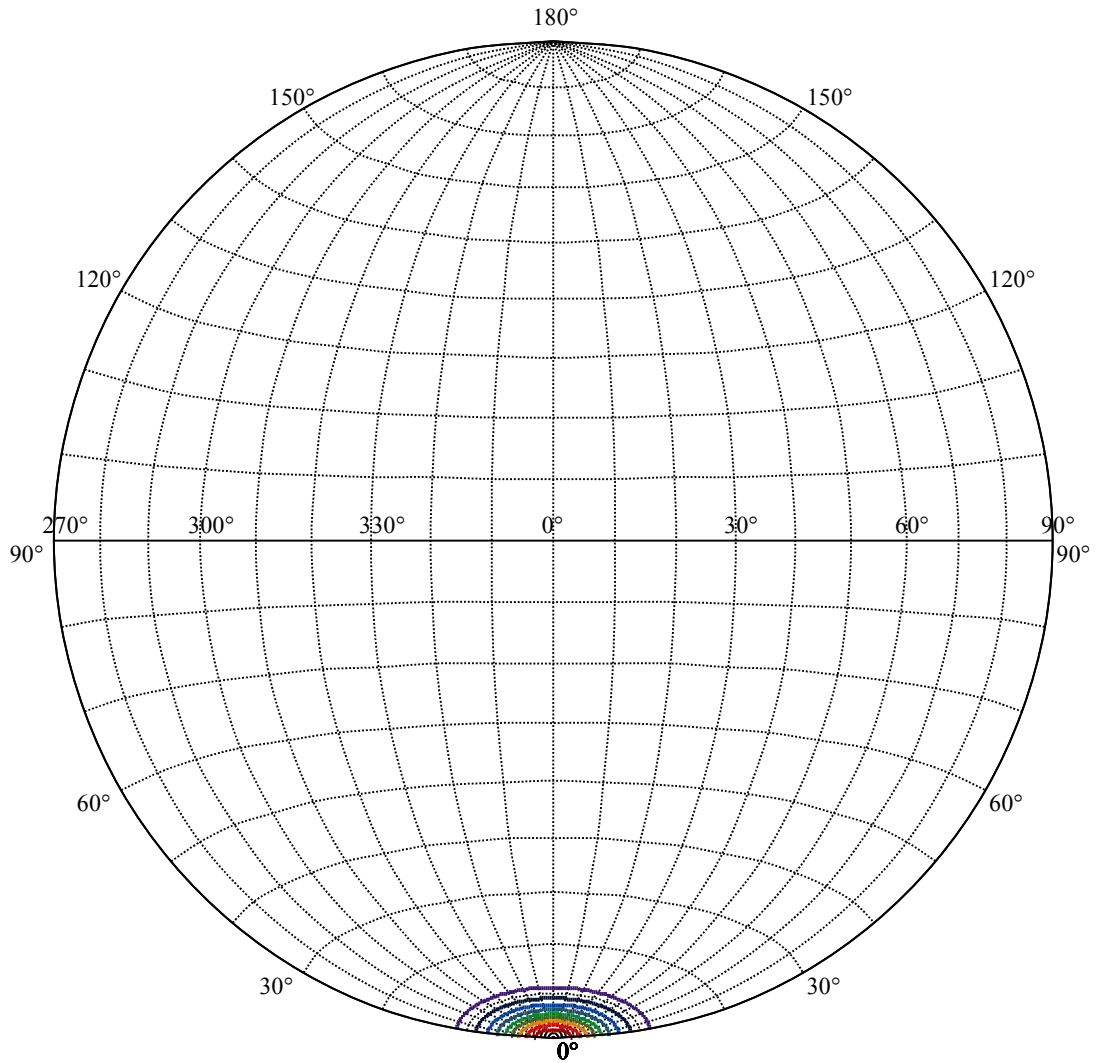
Field angle(10%Imax):C0/180Left:11.2 Right:11.2  
:C90/270Left:11.2 Right:11.2

Beam Angle(50%Imax):C0/180Left:5.6 Right:5.6  
:C90/270Left:5.6 Right:5.6





(10%I <sub>max</sub> ) 1282.26	—
(20%I <sub>max</sub> ) 2564.53	—
(30%I <sub>max</sub> ) 3846.79	—
(40%I <sub>max</sub> ) 5129.05	—
(50%I <sub>max</sub> ) 6411.32	—
(60%I <sub>max</sub> ) 7693.58	—
(70%I <sub>max</sub> ) 8975.84	—
(80%I <sub>max</sub> ) 10258.1	—
(90%I <sub>max</sub> ) 11540.4	—



House

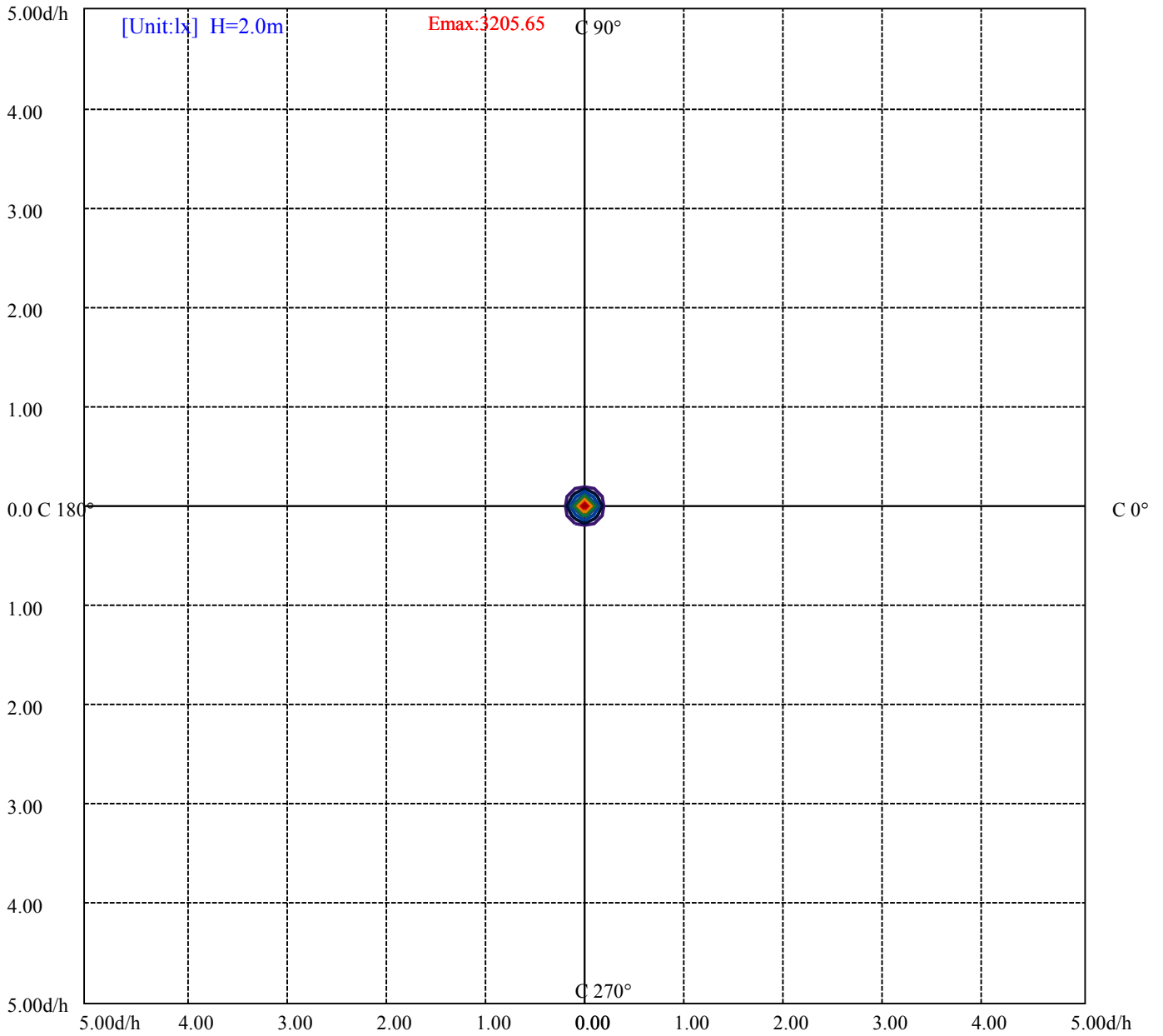
[Unit:cd]

Road

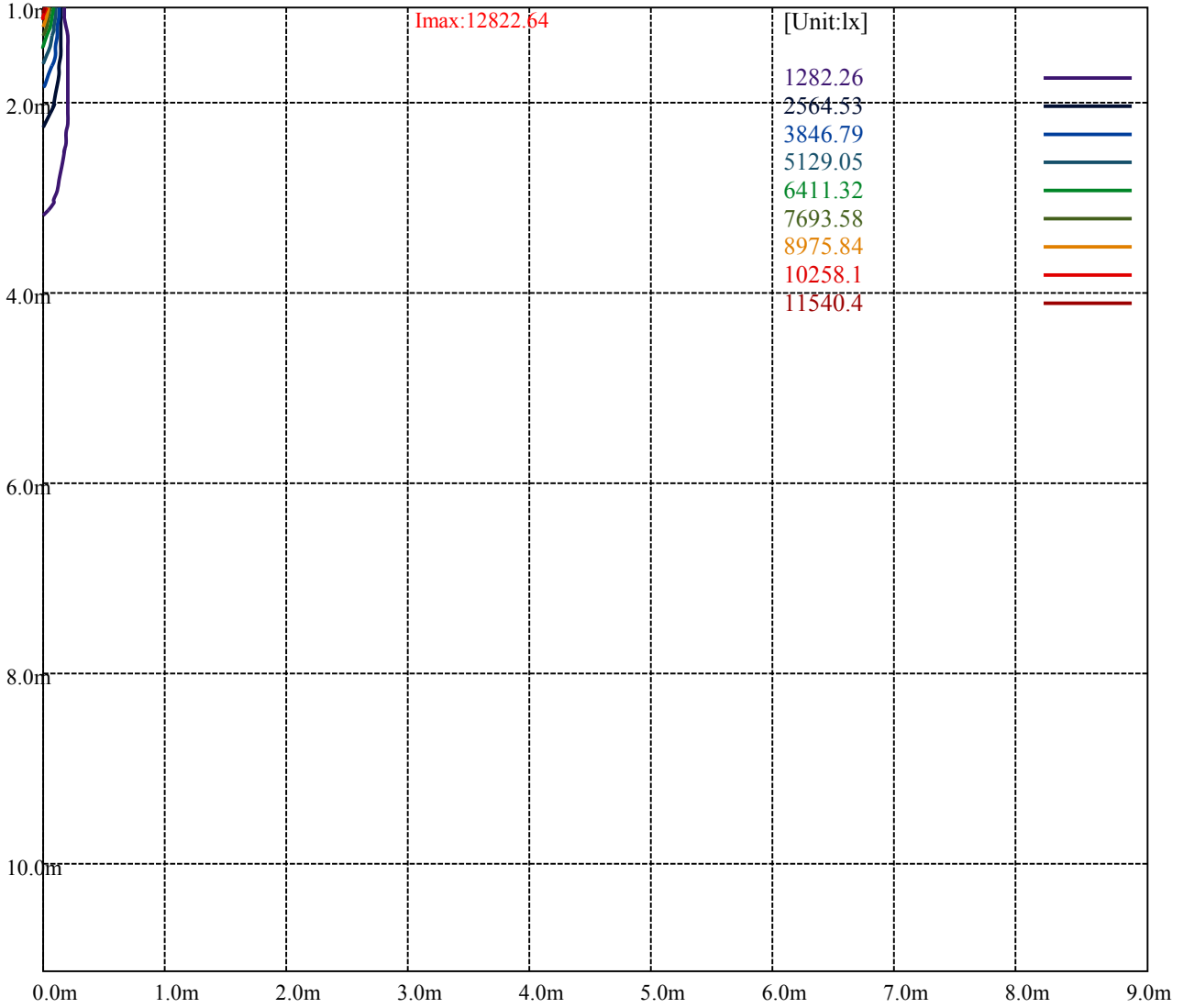
Imax:12822.64

(10%Imax)	1282.26	—
(20%Imax)	2564.53	—
(30%Imax)	3846.79	—
(40%Imax)	5129.05	—
(50%Imax)	6411.32	—
(60%Imax)	7693.58	—
(70%Imax)	8975.84	—
(80%Imax)	10258.1	—
(90%Imax)	11540.4	—





- (10%E<sub>max</sub>) 320.565
- (20%E<sub>max</sub>) 641.1275
- (30%E<sub>max</sub>) 961.6925
- (40%E<sub>max</sub>) 1282.255
- (50%E<sub>max</sub>) 1602.82
- (60%E<sub>max</sub>) 1923.382
- (70%E<sub>max</sub>) 2243.948
- (80%E<sub>max</sub>) 2564.5
- (90%E<sub>max</sub>) 2885.075



Luminance Table

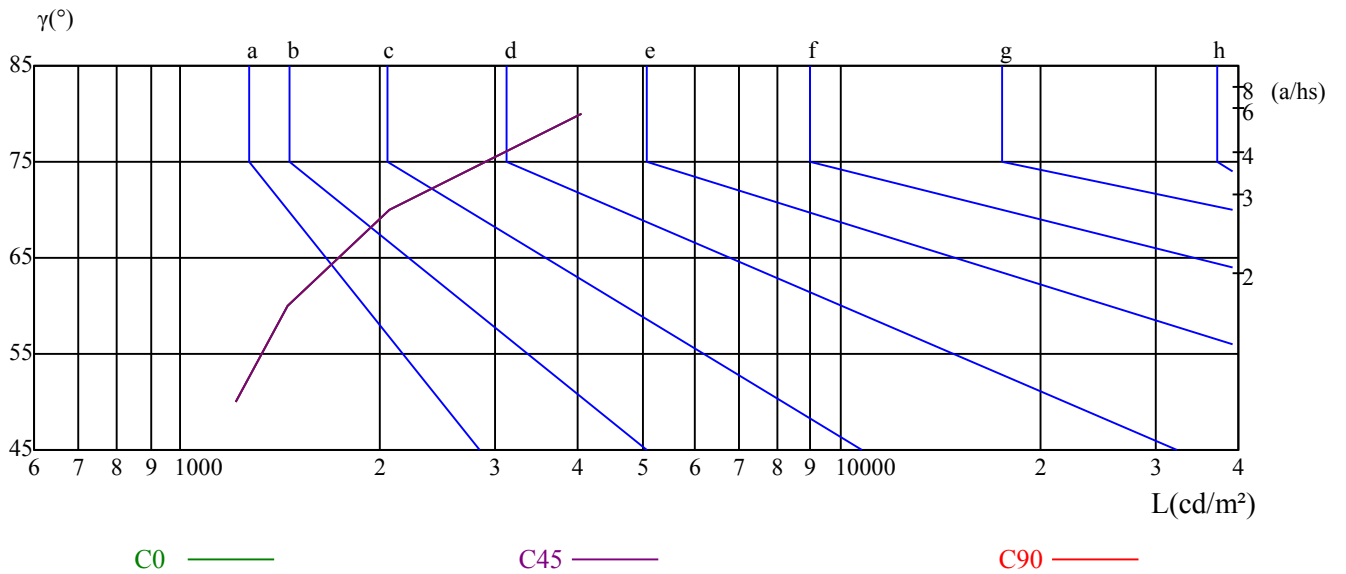
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	1211	0	1449	0	2067	0	4045	0
C45	0	1211	0	1449	0	2067	0	4045	0
C90	0	1211	0	1449	0	2067	0	4045	0

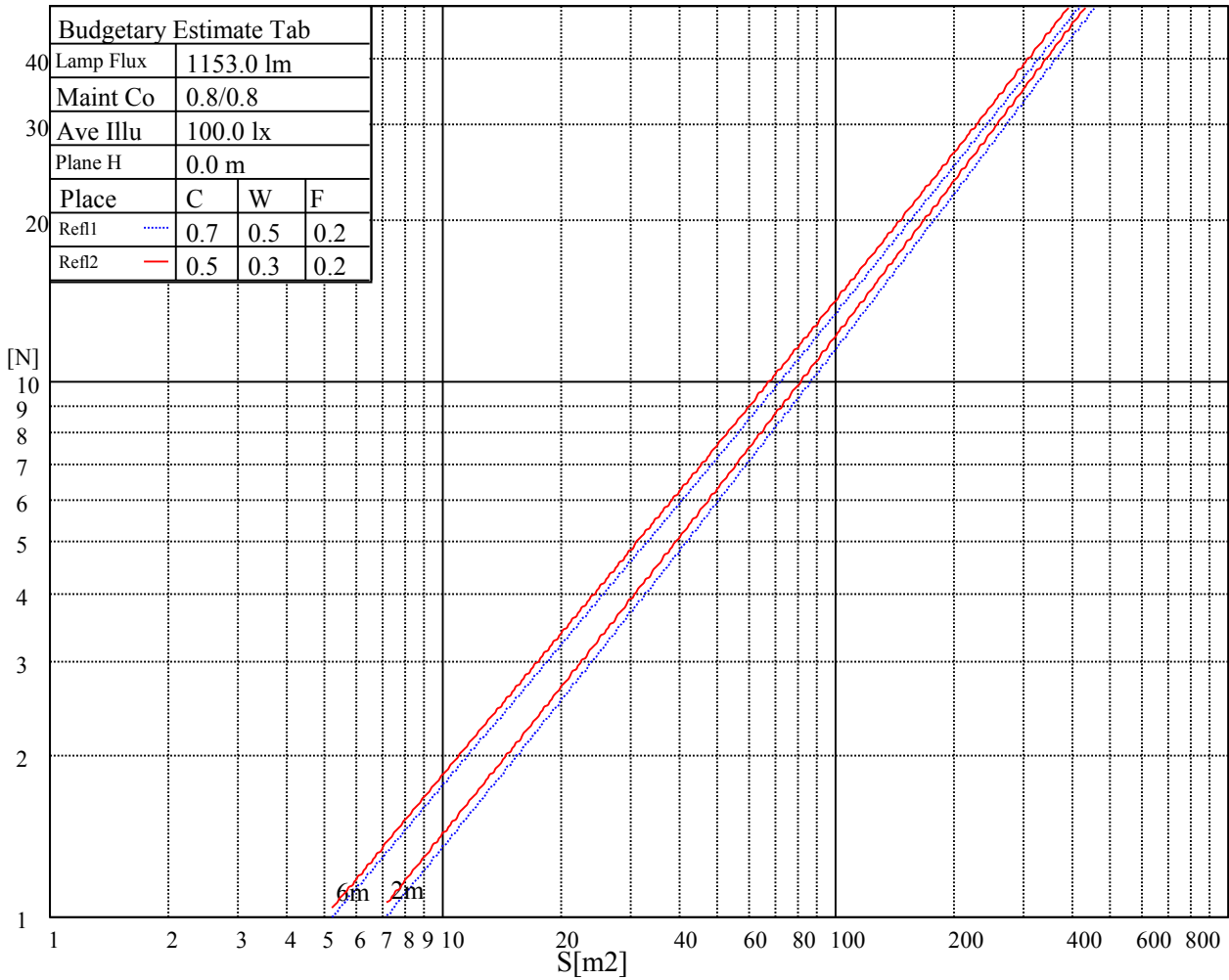
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4042	4042	4042	6340	6340	6340	18358	18358	18358

Glare Table

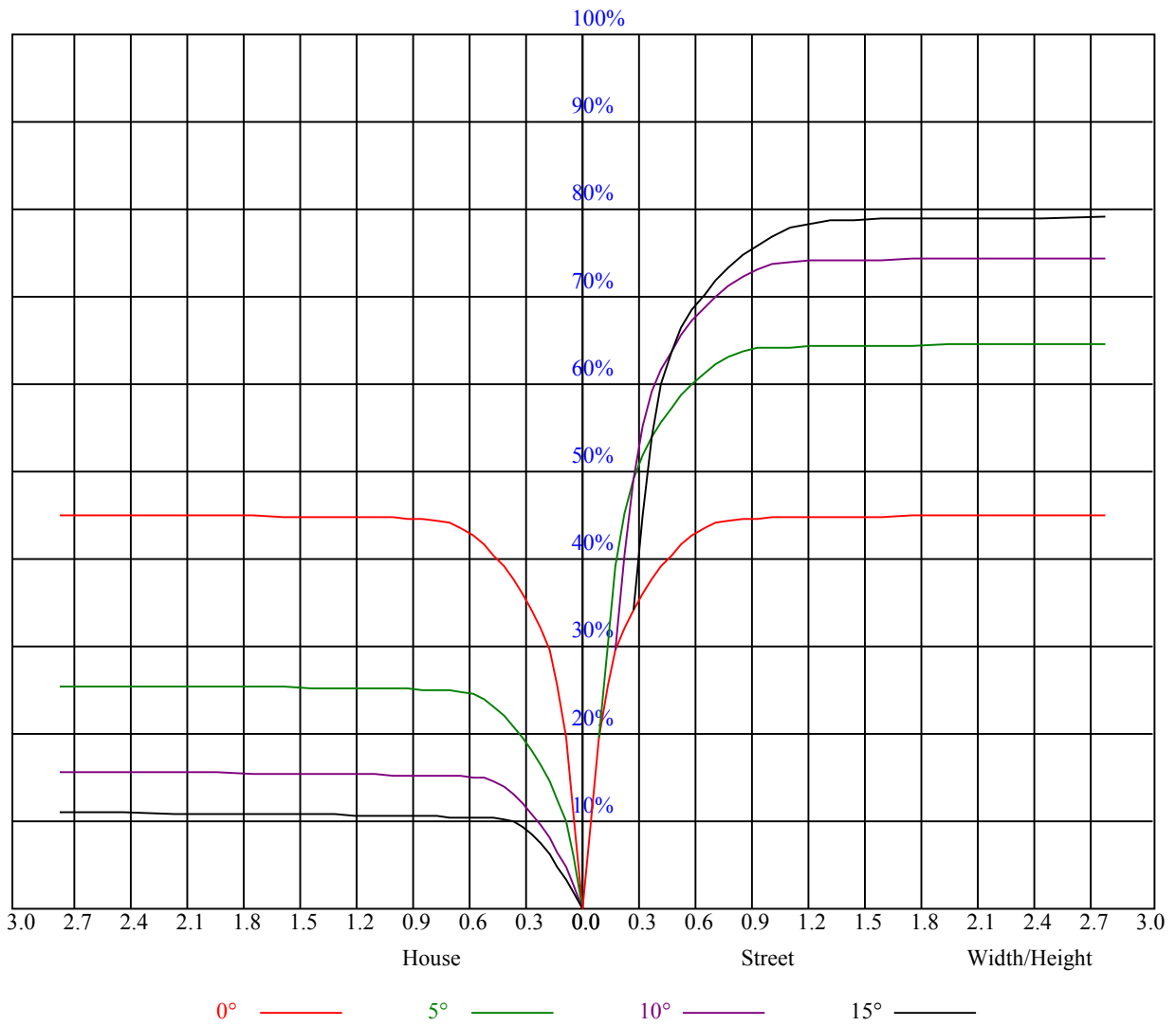
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.01	0.99	0.97	1.00	0.98	0.96	0.96	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86
2	0.97	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.84	0.87	0.84	0.83	0.85	0.83	0.81	0.80
4	0.89	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.82	0.80	0.83	0.80	0.79	0.78
5	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.78	0.82	0.79	0.77	0.81	0.78	0.76	0.75
6	0.83	0.79	0.76	0.82	0.78	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
7	0.80	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
8	0.78	0.74	0.71	0.77	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
9	0.76	0.72	0.69	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.71	0.69	0.68
10	0.74	0.70	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.72	0.69	0.67	0.66



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	11903.19	13912.75	12651.96	9177.90	6017.66	3094.17	1517.35	976.70	728.40
45.0	13136.46	14033.88	12051.85	8385.09	5428.56	2862.93	1285.02	890.81	693.16
90.0	13257.58	11864.65	9030.90	5965.91	3025.90	1433.12	964.42	741.33	597.86
135.0	12993.31	10868.13	7663.85	4459.57	2840.91	1200.23	848.42	660.68	536.25
180.0	11903.19	8970.89	5491.88	2964.24	1417.15	937.00	691.95	549.74	481.30
225.0	13136.46	9955.30	6519.78	3605.64	1692.98	1026.31	738.58	578.15	508.67
270.0	13257.58	11589.37	8374.08	5043.17	2835.40	1378.61	917.24	691.51	561.58
315.0	12993.31	12387.69	9623.86	6381.59	3585.27	1694.64	1066.72	780.42	611.68
360.0	11903.19	13912.75	12651.96	9177.90	6017.66	3094.17	1517.35	976.70	728.40
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	573.69	477.89	426.14	403.56	389.25	373.28	360.07	347.41	336.95
45.0	546.16	448.71	404.11	388.15	380.44	372.18	358.42	344.65	332.54
90.0	475.36	415.62	392.22	381.93	372.40	363.48	348.67	336.17	314.15
135.0	460.27	421.18	398.06	383.19	371.08	356.21	345.75	334.74	280.79
180.0	438.36	413.64	393.82	378.18	362.38	350.27	340.47	309.64	188.02
225.0	461.76	429.61	407.64	390.18	375.59	362.33	352.20	337.33	239.17
270.0	496.06	453.11	427.24	406.87	390.90	375.48	364.47	351.81	317.12
315.0	504.32	450.53	422.67	405.05	387.27	372.24	356.49	344.16	333.86
360.0	573.69	477.89	426.14	403.56	389.25	373.28	360.07	347.41	336.95
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	320.98	189.83	57.92	14.20	10.35	6.17	5.34	4.96	4.84
45.0	280.24	146.62	32.21	12.72	9.25	6.28	5.23	5.01	4.90
90.0	190.66	65.19	16.08	13.38	9.25	6.94	5.01	4.90	4.79
135.0	129.55	29.35	14.87	11.84	8.81	5.01	4.90	4.84	4.68
180.0	52.14	13.54	11.07	8.15	5.12	4.90	4.79	4.73	4.62
225.0	90.35	15.53	12.77	9.08	6.44	5.07	4.90	4.79	4.73
270.0	197.27	56.49	15.91	11.95	7.54	5.23	5.01	4.84	4.73
315.0	234.60	98.39	15.91	11.67	7.43	5.78	5.01	4.79	4.73
360.0	320.98	189.83	57.92	14.20	10.35	6.17	5.34	4.96	4.84
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	4.73	4.62	4.62	4.57	4.51	4.51	4.46	4.40	4.40
45.0	4.79	4.73	4.68	4.62	4.57	4.57	4.51	4.51	4.46
90.0	4.68	4.62	4.57	4.57	4.46	4.51	4.46	4.46	4.46
135.0	4.62	4.57	4.51	4.51	4.46	4.46	4.40	4.40	4.40
180.0	4.57	4.51	4.51	4.46	4.40	4.40	4.40	4.40	4.40
225.0	4.62	4.62	4.57	4.51	4.51	4.46	4.46	4.46	4.40
270.0	4.62	4.57	4.51	4.46	4.46	4.40	4.40	4.40	4.40
315.0	4.62	4.57	4.51	4.46	4.40	4.40	4.35	4.35	4.35
360.0	4.73	4.62	4.62	4.57	4.51	4.51	4.46	4.40	4.40
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	4.40	4.40	4.35	4.35	4.35	4.35	4.40	4.35	4.35
45.0	4.51	4.46	4.46	4.46	4.46	4.46	4.40	4.40	4.35
90.0	4.46	4.46	4.40	4.40	4.40	4.40	4.35	4.46	4.35
135.0	4.40	4.40	4.40	4.46	4.35	4.35	4.35	4.40	4.35
180.0	4.40	4.40	4.40	4.35	4.40	4.35	4.35	4.29	4.29
225.0	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40	4.40
270.0	4.40	4.40	4.40	4.40	4.35	4.40	4.35	4.35	4.35
315.0	4.35	4.35	4.35	4.35	4.35	4.29	4.35	4.35	4.29
360.0	4.40	4.40	4.35	4.35	4.35	4.35	4.40	4.35	4.35

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	4.35
45.0	4.40
90.0	4.35
135.0	4.35
180.0	4.29
225.0	4.35
270.0	4.35
315.0	4.35
360.0	4.35