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NATA

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LumCAT: 3-1924-E  
Luminaire: LMOP009-3225DH +92.76.340.00  
Report No: 201610022                      Voltage(V): 218.0000  
Test No: 201600022                      Current(A): 0.0730  
LampCAT: CITIZEN CLC251                Power (W): 15.9000  
Lamp flux(lm): 1738.0                    PF: 0.9980  
Number of Lamps: 1                      Ballast type: AC  
Length(mm): 0                            Width(mm): 0  
Phm Type: C                                Height(mm): 0

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Photometric Results

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Lumens(lm): 1594.20  
Efficiency(%): 91.73%  
Lumens(lm)/Power(W): 100.26  
Central intensity(cd): 5285.965  
Maximum intensity(cd): 5342.673  
Angle of maximum intensity: C=90.0  $\gamma$ =0.0  
Beam Angle(50%Imax): [C0/180]Total=26.2  
  [C90/270]Total=25.8  
Field angle(10%Imax): [C0/180]Total=62.1  
  [C90/270]Total=61.9  
Maximum s/h(1/2): C0\_180=0.44 C90\_270=0.44  
Maximum s/h(1/4): C0\_180=0.45 C90\_270=0.45  
Up flux rate of lamp(%): 0.00%  
Down flux rate of lamp(%): 91.73%  
Up flux rate of LUM(%): - -  
Down flux rate of LUM(%): 100.00%  
CIE Type : Direct lighting  
Output flux ratio in  $\pi$  solid angle : 98.724%

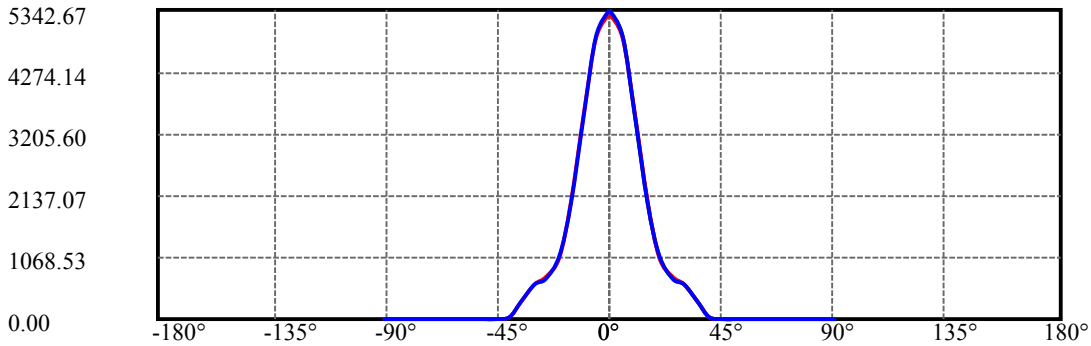
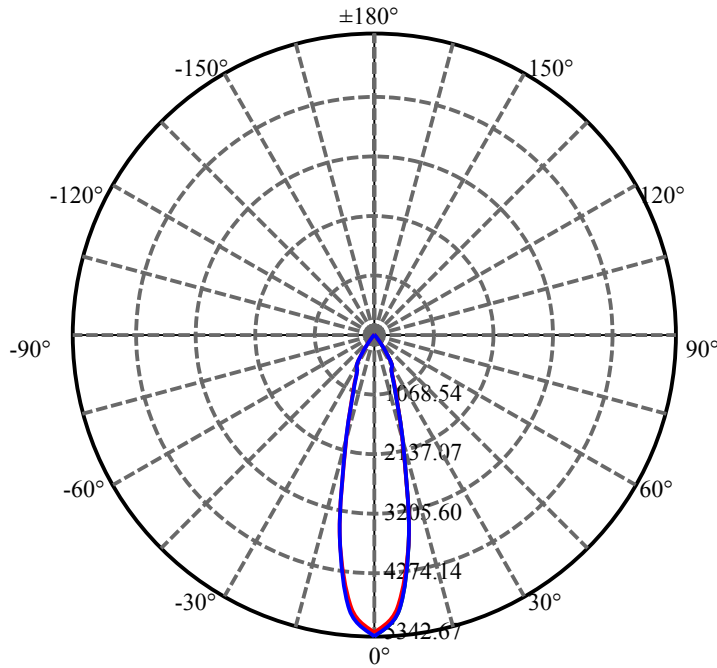
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5294.636	0.000	0	.000%	.000%
5.0	4872.767	121.548	121.548	6.994%	7.624%
10.0	3597.523	303.009	424.557	17.434%	26.631%
15.0	2037.224	334.249	758.807	19.232%	47.598%
20.0	1083.531	257.194	1016.001	14.798%	63.731%
25.0	714.033	188.531	1204.532	10.848%	75.557%
30.0	590.576	165.099	1369.632	9.499%	85.913%
35.0	292.687	130.067	1499.698	7.484%	94.072%
40.0	35.511	54.757	1554.456	3.151%	97.507%
45.0	10.151	8.455	1562.91	.486%	98.037%
50.0	8.720	3.813	1566.723	.219%	98.277%
55.0	7.887	3.611	1570.334	.208%	98.503%
60.0	7.329	3.517	1573.851	.202%	98.724%
65.0	6.903	3.460	1577.311	.199%	98.941%
70.0	6.634	3.428	1580.739	.197%	99.156%
75.0	6.373	3.400	1584.139	.196%	99.369%
80.0	6.221	3.370	1587.509	.194%	99.580%
85.0	6.153	3.362	1590.871	.193%	99.791%
90.0	6.001	3.328	1594.199	.191%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1369.63	78.81%	85.91%
0-40	1554.46	89.44%	97.51%
0-60	1573.85	90.56%	98.72%
0-90	1590.87	91.53%	99.79%
0-120	1590.87	91.53%	99.79%
0-180	1594.20	91.73%	100.00%
60-90	20.54	1.18%	1.29%
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%
0-27.14	1275.36	73.38%	80.00%

ZONAL LUMEN SUMMARY

0-10	424.56
10-20	591.44
20-30	353.63
30-40	184.82
40-50	12.27
50-60	7.13
60-70	6.89
70-80	6.77
80-90	3.36
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

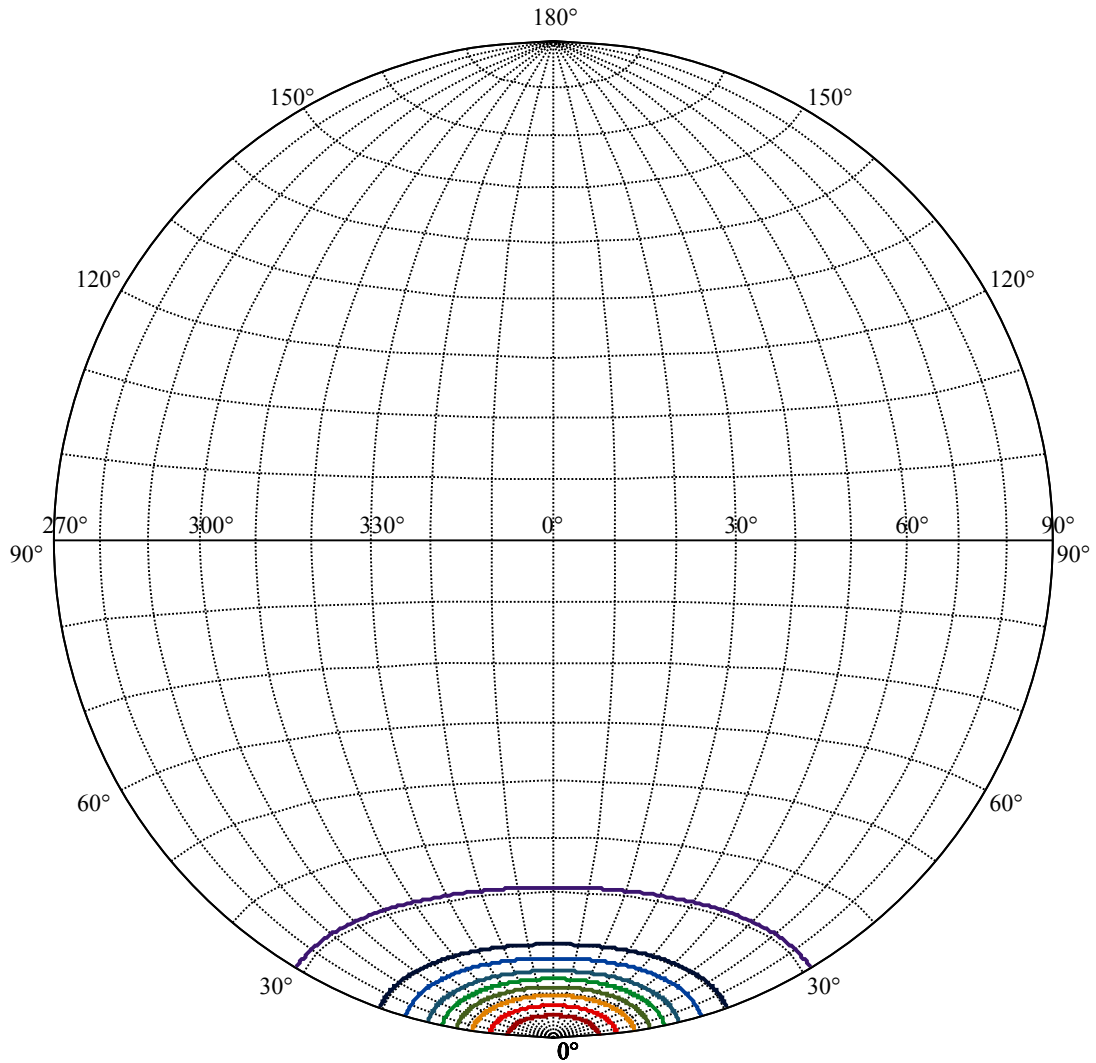


C90(Max): ———  
 C0/C180: ———  
 C90/C270: ———

Field angle(10%Imax):C0/180Left:31.1 Right:31.1  
 :C90/270Left:31.0 Right:31.0

Beam Angle(50%Imax):C0/180Left:13.1 Right:13.1  
 :C90/270Left:12.9 Right:12.9





House

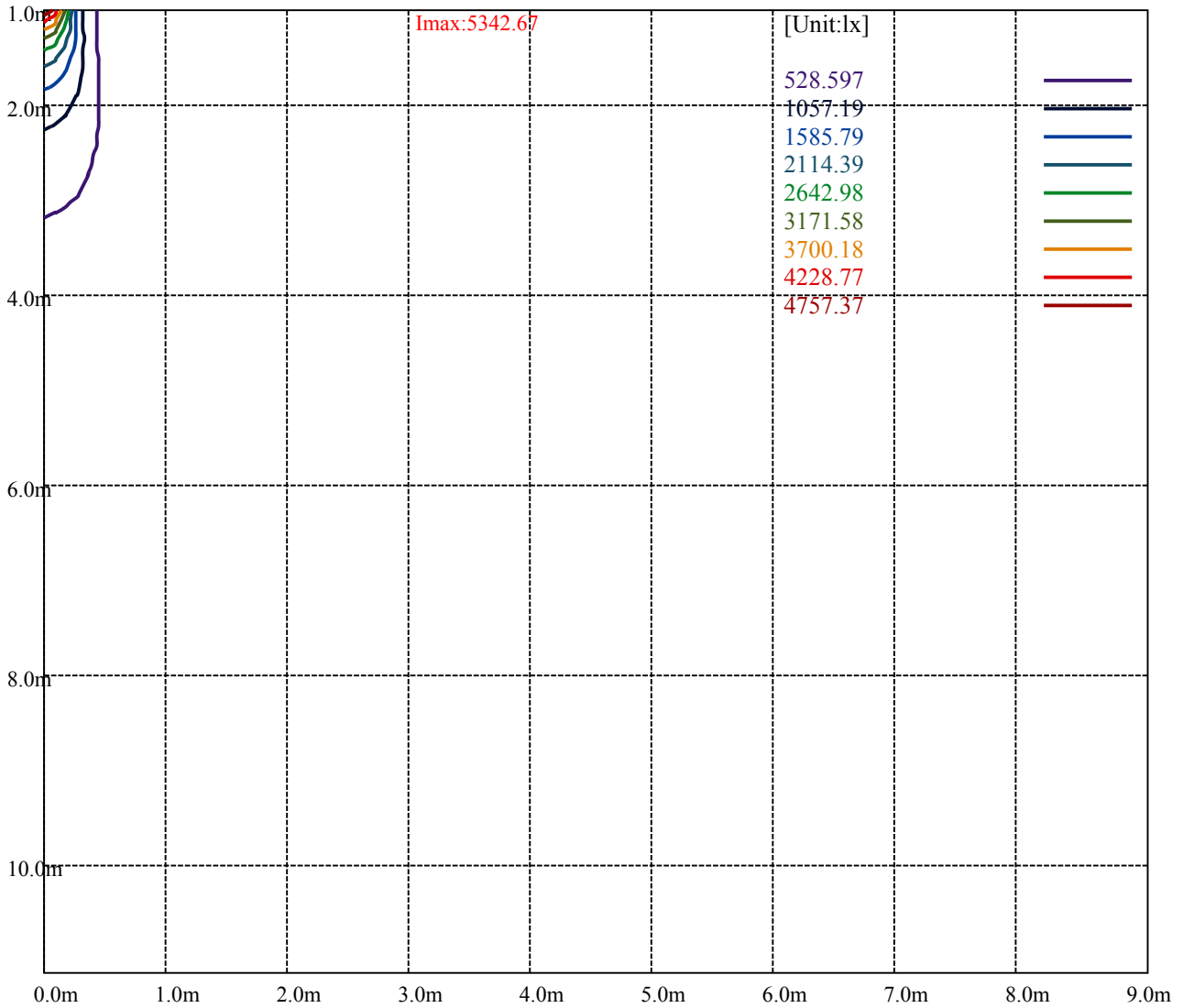
[Unit:cd]

Road

Imax:5342.67

(10%Imax)	534.267	—
(20%Imax)	1068.53	—
(30%Imax)	1602.8	—
(40%Imax)	2137.07	—
(50%Imax)	2671.34	—
(60%Imax)	3205.6	—
(70%Imax)	3739.87	—
(80%Imax)	4274.14	—
(90%Imax)	4808.41	—







Luminance Table

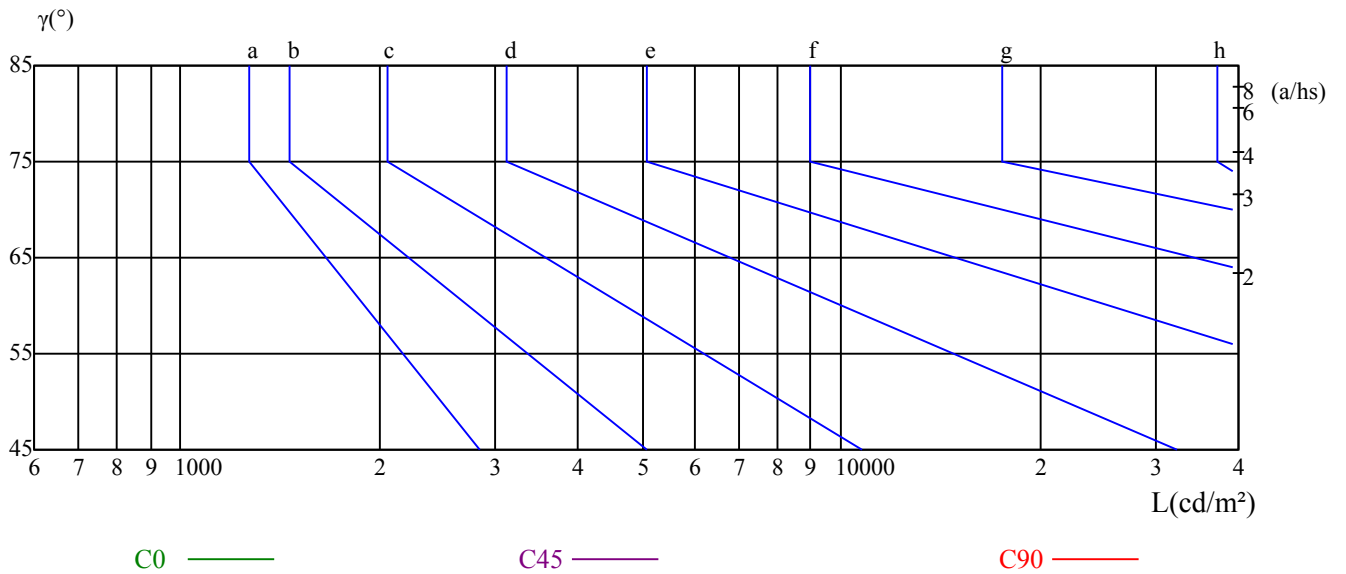
$\gamma$	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

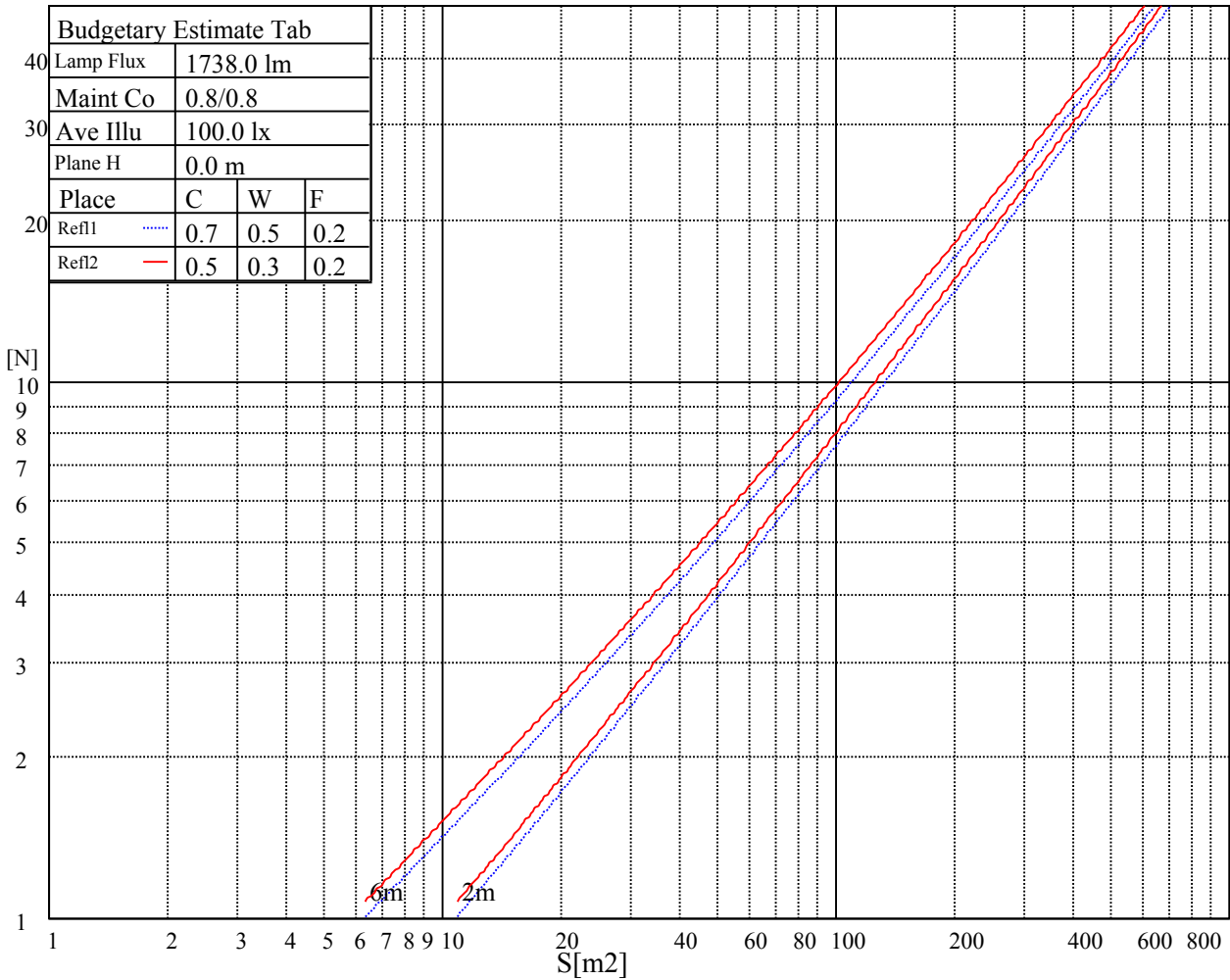
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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 RHOF=20 CU															
0	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.03	1.01	0.99	1.01	0.99	0.97	0.97	0.95	0.94	0.94	0.92	0.91	0.90	0.90	0.89	0.87
2	0.97	0.94	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.88	0.85	0.91	0.87	0.84	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.79
4	0.87	0.83	0.80	0.86	0.83	0.80	0.85	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.83	0.79	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.74	0.78	0.76	0.74	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.70
7	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.65	0.71	0.67	0.65	0.64
9	0.71	0.66	0.64	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60

Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	5285.96	4801.47	3635.37	2091.59	1124.80	743.81	600.11	293.45	45.53
45.0	5293.12	5062.99	3835.23	2178.03	1166.65	727.85	602.32	328.14	43.44
90.0	5342.67	5054.18	3713.55	2037.64	1068.53	701.20	585.69	310.41	32.87
135.0	5256.79	5168.69	4060.41	2423.58	1199.68	735.55	619.94	389.80	65.85
180.0	5285.96	4886.81	3604.54	1973.77	1006.98	693.88	586.52	281.01	26.26
225.0	5293.12	4723.84	3346.33	1894.49	1011.50	696.19	589.71	256.51	23.29
270.0	5342.67	4718.33	3442.13	1970.47	1117.64	724.54	594.61	289.60	26.59
315.0	5256.79	4565.83	3142.62	1728.22	972.46	689.25	545.72	192.59	20.26
360.0	5285.96	4801.47	3635.37	2091.59	1124.80	743.81	600.11	293.45	45.53
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	10.41	8.86	7.98	7.38	6.94	6.66	6.39	6.28	6.11
45.0	10.41	8.81	7.98	7.43	6.99	6.72	6.39	6.28	6.17
90.0	9.97	8.59	7.82	7.27	6.83	6.61	6.33	6.17	6.22
135.0	11.01	8.97	8.04	7.49	6.94	6.66	6.44	6.22	6.11
180.0	9.74	8.48	7.71	7.16	6.83	6.50	6.28	6.11	6.11
225.0	9.63	8.53	7.65	7.21	6.83	6.61	6.33	6.22	6.22
270.0	10.08	8.81	7.98	7.38	6.99	6.72	6.44	6.28	6.17
315.0	9.97	8.70	7.93	7.32	6.88	6.61	6.39	6.22	6.11
360.0	10.41	8.86	7.98	7.38	6.94	6.66	6.39	6.28	6.11
C/ $\gamma$ (°)	90.0								
0.0	5.95								
45.0	6.06								
90.0	6.00								
135.0	6.00								
180.0	5.95								
225.0	6.06								
270.0	6.00								
315.0	6.00								
360.0	5.95								