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NATA

LumCAT: 2-1566-M	
Luminaire: BJB 47.319.2141	
Report No: NATA0100	Voltage(V): 35.3500
Test No: GC2019021907	Current(A): 0.8000
LampCAT: BRIDGELUX V18B	Power (W): 28.2800
Lamp flux(lm): 4018.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 3555.10
Efficiency(%): 88.48%
Lumens(lm)/Power(W): 127.46
Central intensity(cd): 8838.562
Maximum intensity(cd): 8838.562
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.0
[C90/270]Total=26.0
Field angle(10%Imax): [C0/180]Total=72.3
[C90/270]Total=72.3
Maximum s/h(1/2): C0_180=0.43 C90_270=0.43
Maximum s/h(1/4): C0_180=0.55 C90_270=0.55
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.71%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.489%

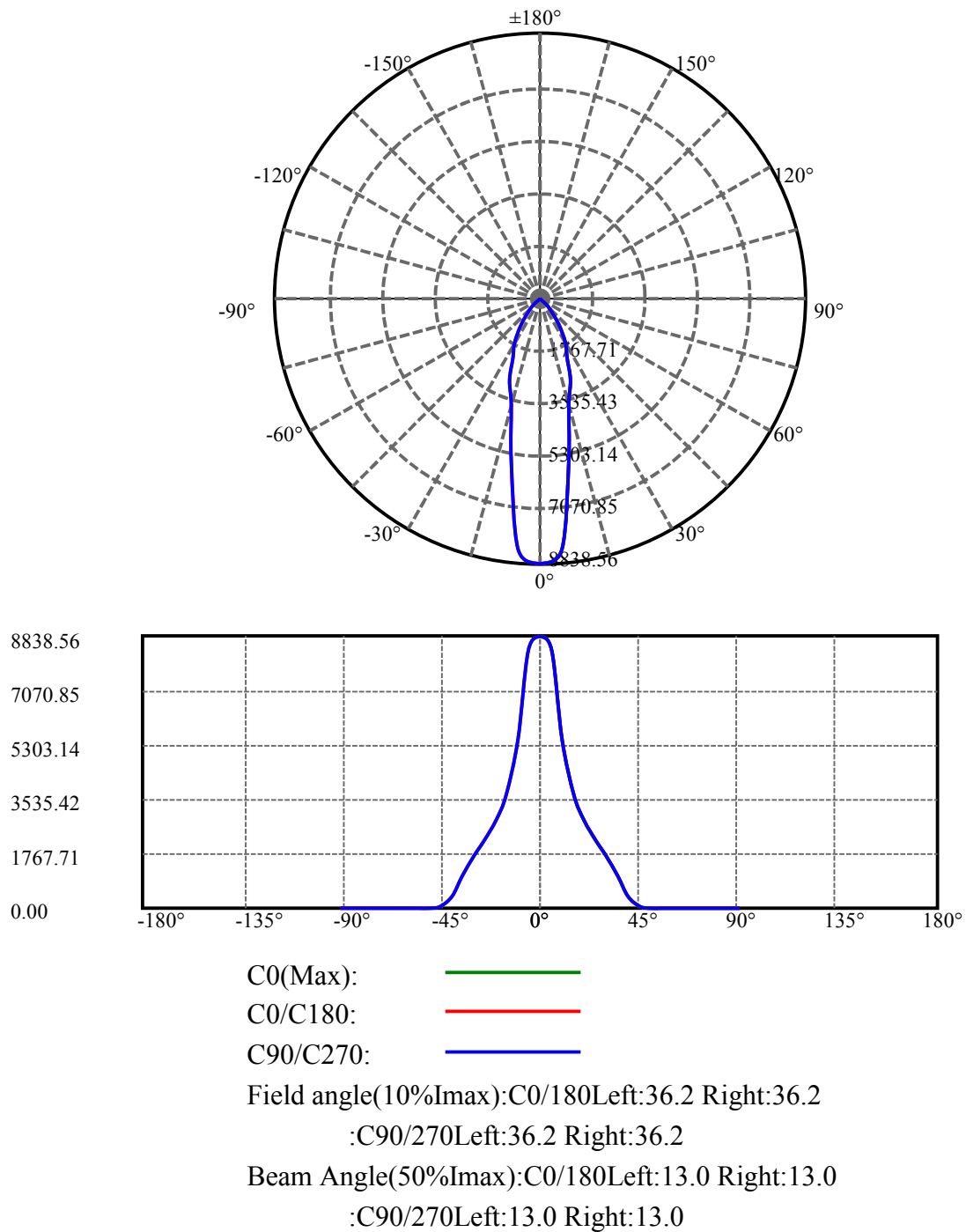
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8838.563	52.856	52.856	1.315%	1.487%
5.0	8340.188	398.438	451.295	9.916%	12.694%
10.0	5514.047	524.844	976.139	13.062%	27.457%
15.0	3678.258	521.829	1497.967	12.987%	42.136%
20.0	2881.125	540.136	2038.103	13.443%	57.329%
25.0	2182.781	505.648	2543.751	12.585%	71.552%
30.0	1692.352	463.821	3007.571	11.544%	84.599%
35.0	1031.477	324.295	3331.867	8.071%	93.721%
40.0	394.453	138.980	3470.847	3.459%	97.630%
45.0	46.484	18.017	3488.863	.448%	98.137%
50.0	26.416	11.092	3499.955	.276%	98.449%
55.0	15.764	7.078	3507.034	.176%	98.648%
60.0	14.794	7.023	3514.056	.175%	98.845%
65.0	14.295	7.101	3521.157	.177%	99.045%
70.0	14.027	7.225	3528.383	.180%	99.248%
75.0	14.189	7.513	3535.895	.187%	99.460%
80.0	14.569	7.864	3543.76	.196%	99.681%
85.0	13.887	7.583	3551.342	.189%	99.894%
90.0	13.711	3.758	3555.1	.094%	100.000%

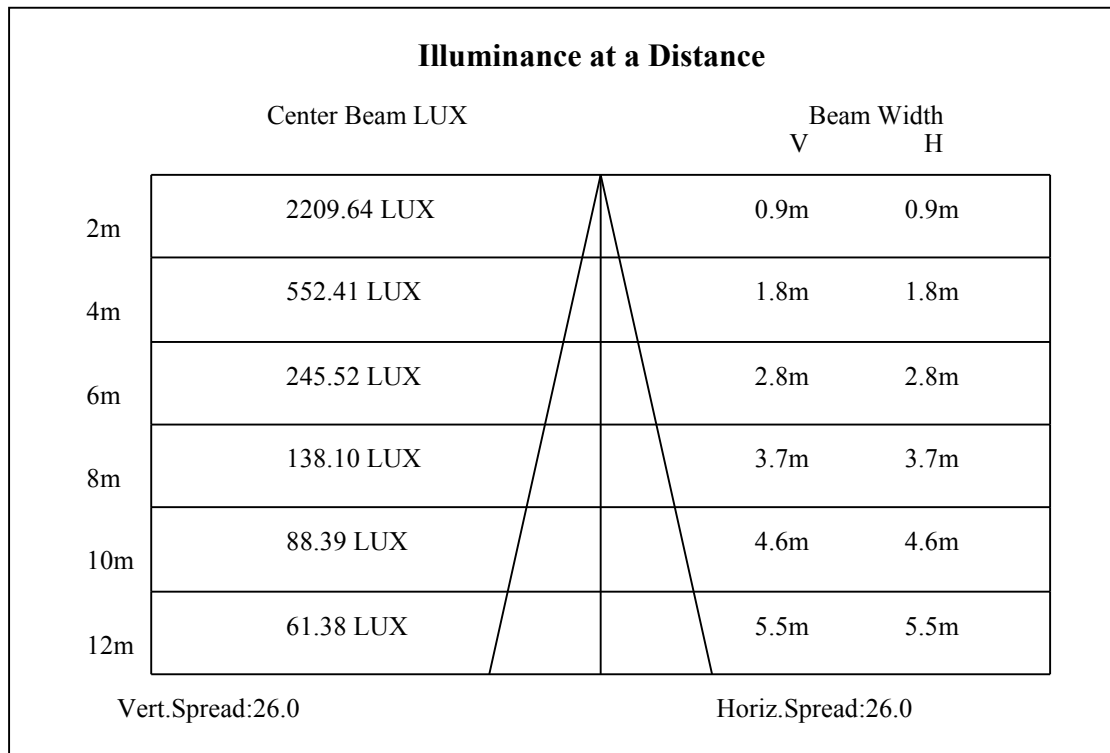
ZONAL LUMEN SUMMARY

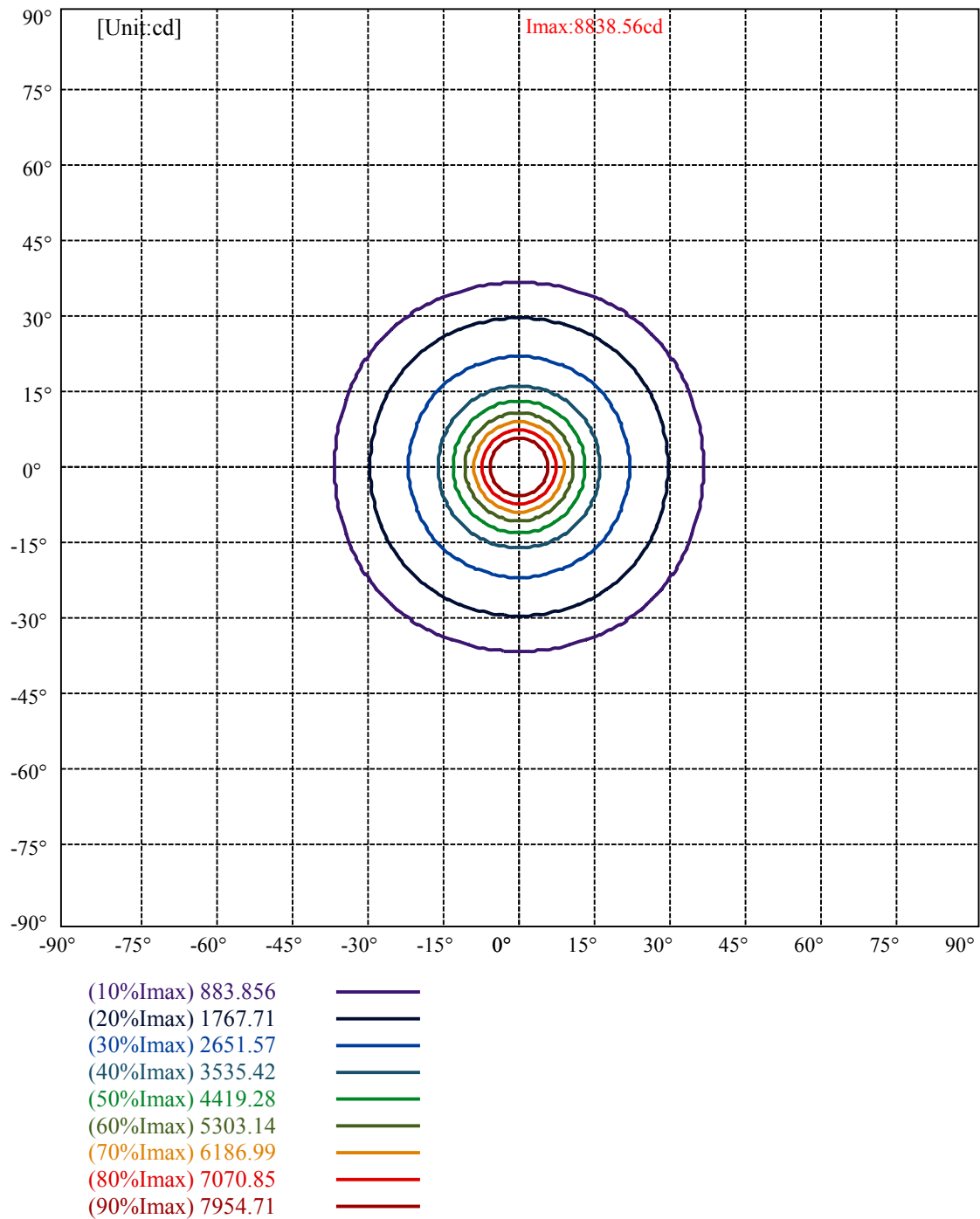
Zone	Lumens	%Lamp	%Fixt
0-30	3007.57	74.85%	84.60%
0-40	3470.85	86.38%	97.63%
0-60	3514.06	87.46%	98.85%
0-90	3551.34	88.39%	99.89%
0-120	3551.34	88.39%	99.89%
0-180	3555.10	88.48%	100.00%
60-90	44.31	1.10%	1.25%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.24	2844.08	70.78%	80.00%

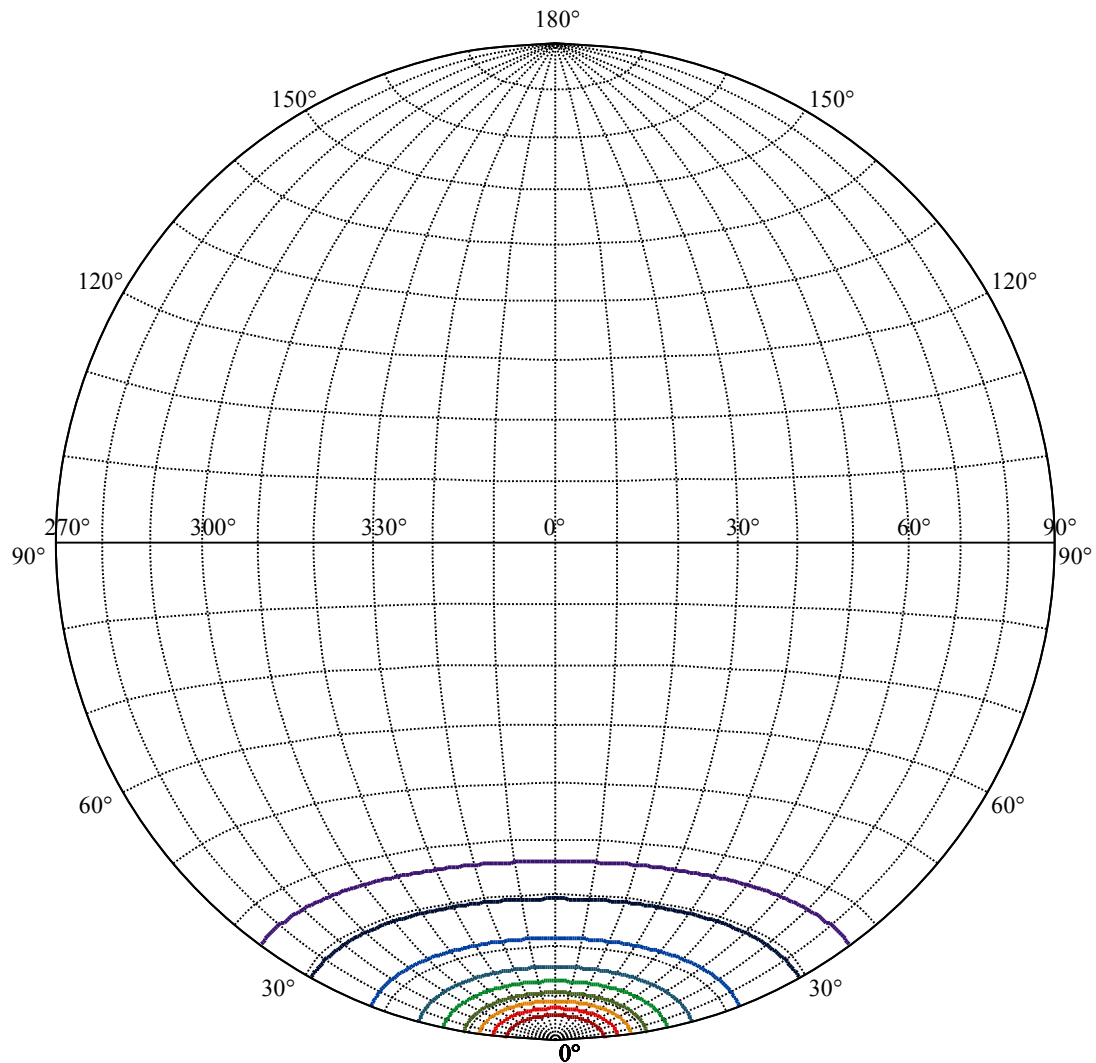
ZONAL LUMEN SUMMARY

0-10	976.14
10-20	1061.96
20-30	969.47
30-40	463.28
40-50	29.11
50-60	14.10
60-70	14.33
70-80	15.38
80-90	7.58
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:8838.56

(10%Imax) 883.856

(20%Imax) 1767.71

(30%Imax) 2651.57

(40%Imax) 3535.42

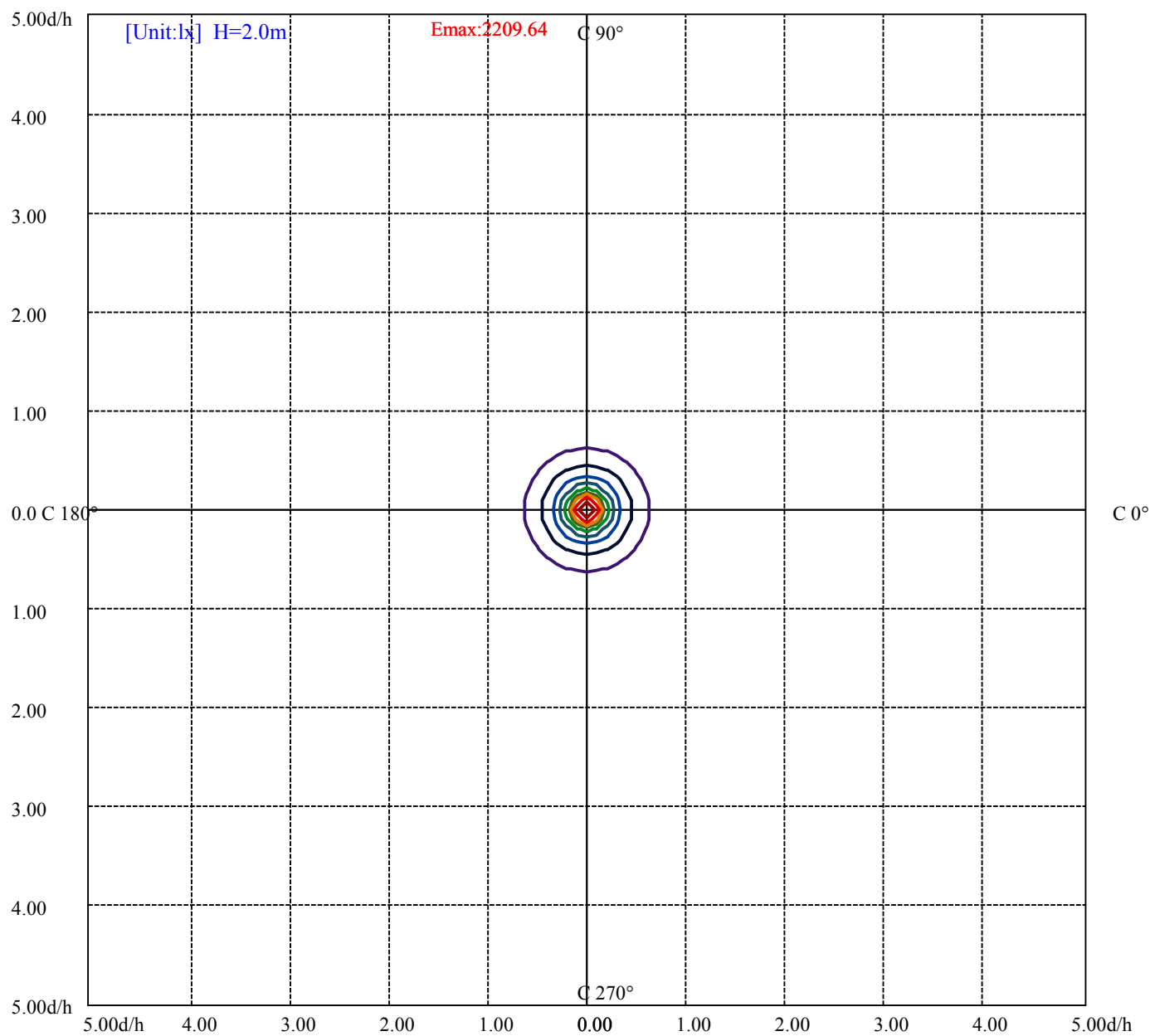
(50%Imax) 4419.28

(60%Imax) 5303.14

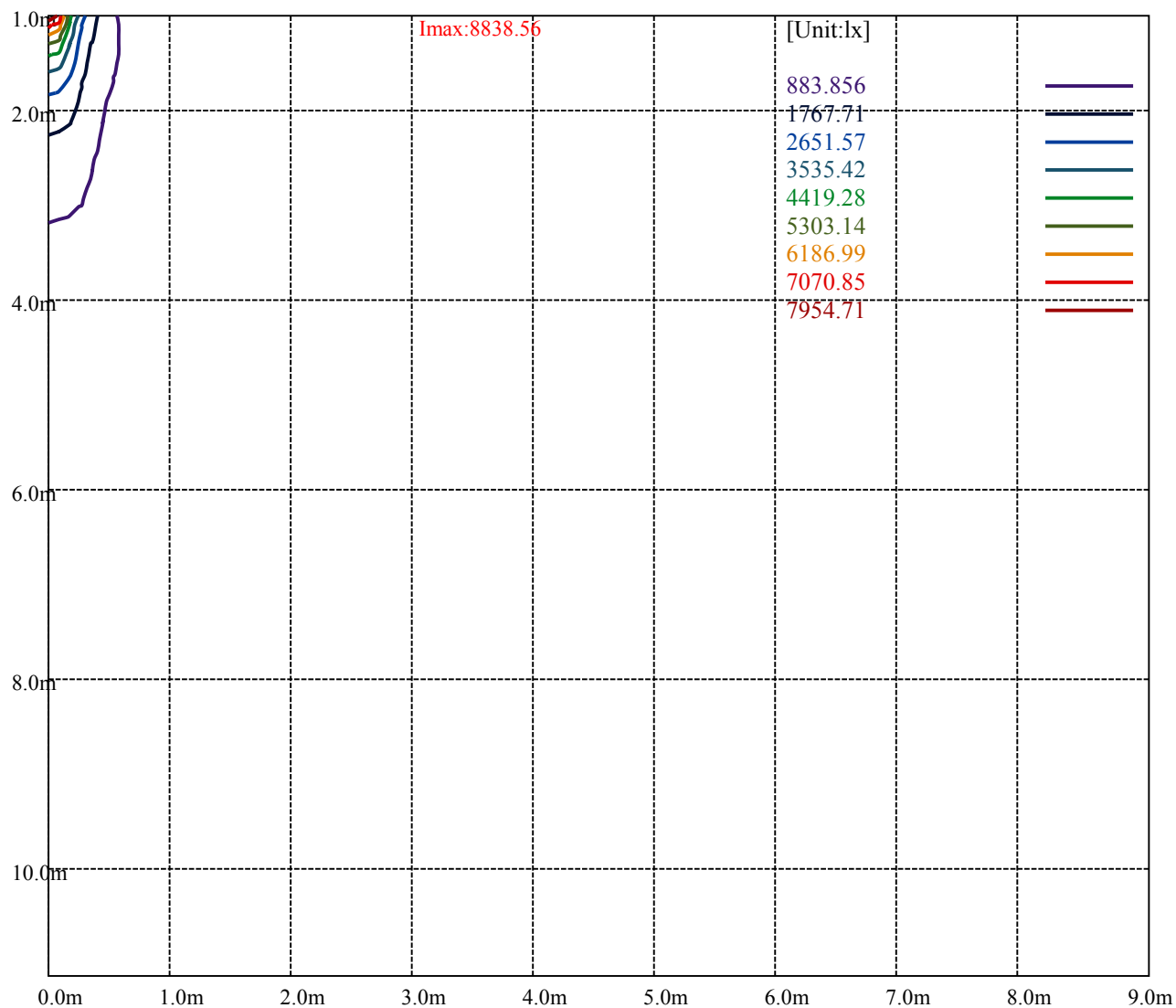
(70%Imax) 6186.99

(80%Imax) 7070.85

(90%Imax) 7954.71



(10%Emax) 220.9637	—
(20%Emax) 441.9275	—
(30%Emax) 662.89	—
(40%Emax) 883.855	—
(50%Emax) 1104.818	—
(60%Emax) 1325.782	—
(70%Emax) 1546.745	—
(80%Emax) 1767.71	—
(90%Emax) 1988.672	—



Luminance Table

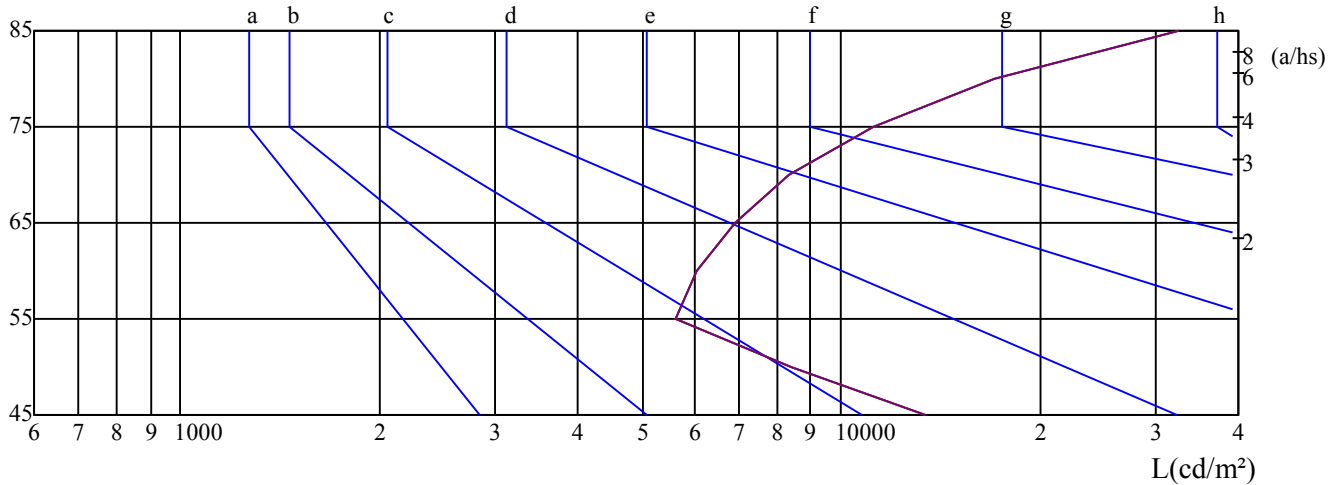
γ	45	50	55	60	65	70	75	80	85
C0	13416	8387	5609	6038	6903	8370	11188	17122	32517
C45	13416	8387	5609	6038	6903	8370	11188	17122	32517
C90	13416	8387	5609	6038	6903	8370	11188	17122	32517

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6903	6903	6903	11188	11188	11188	32517	32517	32517

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

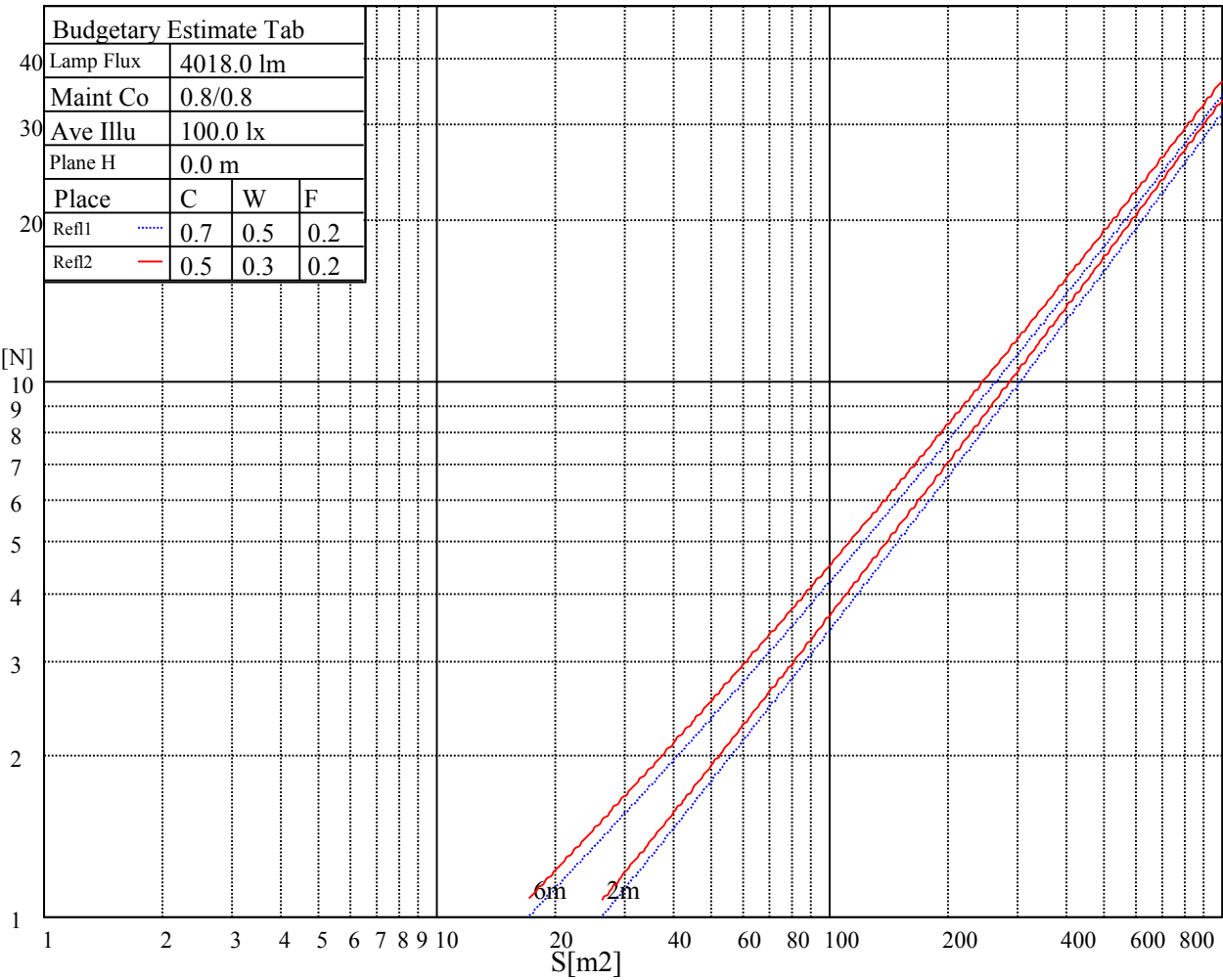
 $\gamma(^{\circ})$ 

C0 ———

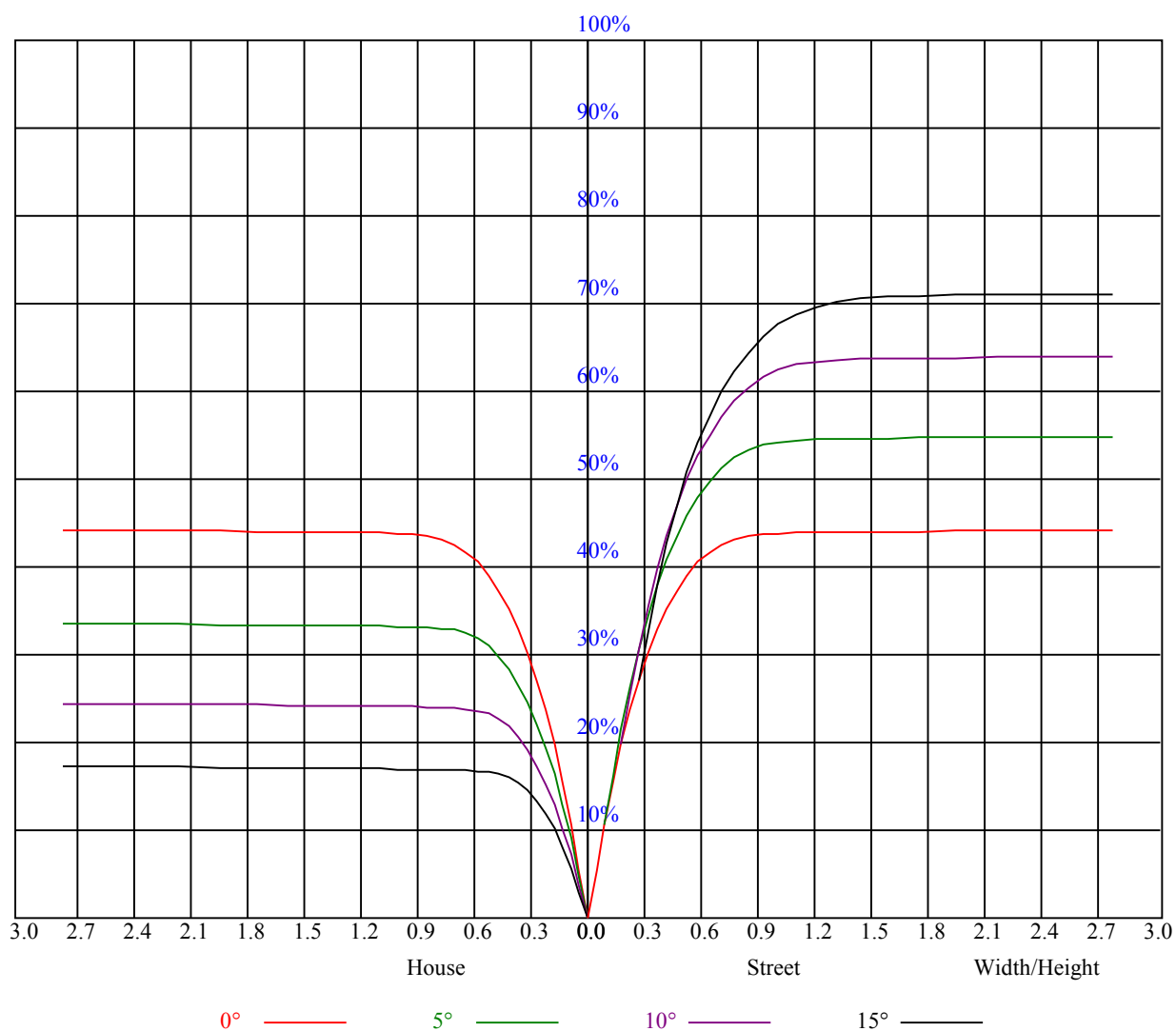
C45 ———

C90 ———

Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	2.13	3.05	2.49	3.36	3.67	2.12	3.04	2.49	3.35	3.66
	3H	5.29	6.10	5.67	6.43	6.80	5.27	6.08	5.66	6.42	6.79
	4H	7.19	7.94	7.60	8.29	8.69	7.04	7.78	7.44	8.14	8.53
	6H	9.25	9.93	9.67	10.31	10.71	9.09	9.77	9.51	10.15	10.54
	8H	10.34	10.98	10.78	11.37	11.78	10.21	10.85	10.65	11.24	11.65
	12H	12.08	12.70	12.52	13.08	13.51	11.99	12.61	12.43	12.99	13.42
4H	2H	3.01	3.76	3.42	4.12	4.51	3.01	3.76	3.42	4.11	4.50
	3H	6.44	7.05	6.86	7.46	7.87	6.43	7.04	6.85	7.45	7.86
	4H	8.51	9.06	8.95	9.48	9.93	8.37	8.91	8.80	9.34	9.79
	6H	10.71	11.18	11.18	11.63	12.11	10.57	11.04	11.05	11.49	11.97
	8H	11.91	12.35	12.39	12.80	13.27	11.80	12.23	12.28	12.69	13.16
	12H	13.56	13.93	14.05	14.42	14.90	13.47	13.85	13.97	14.34	14.82
8H	4H	9.26	9.70	9.74	10.15	10.62	9.15	9.58	9.63	10.04	10.51
	6H	11.76	12.10	12.27	12.61	13.09	11.65	12.00	12.16	12.50	12.99
	8H	13.14	13.44	13.68	13.97	14.47	13.05	13.36	13.59	13.88	14.38
	12H	14.90	15.16	15.43	15.66	16.24	14.84	15.10	15.36	15.60	16.18
12H	4H	9.49	9.86	9.98	10.35	10.83	9.39	9.76	9.88	10.25	10.73
	6H	12.30	12.40	12.63	12.87	13.42	12.20	12.31	12.54	12.78	13.33
	8H	13.60	13.86	14.13	14.36	14.94	13.53	13.79	14.05	14.29	14.87
Variation with the observer position at spacings:											
S = 1.0H		5.2/-9.3					5.2/-9.3				
S = 1.5H		7.7/-7.2					7.7/-7.2				
S = 2.0H		9.2/-5.7					9.2/-5.7				
Standard tables:		BK2					BK2				
Uncorrected UGR		4.3					4.3				



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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.92	0.92	0.92	0.90
1	0.99	0.96	0.94	0.97	0.94	0.92	0.93	0.91	0.90	0.90	0.88	0.87	0.86	0.85	0.84	0.83
2	0.93	0.89	0.86	0.91	0.88	0.85	0.88	0.86	0.83	0.86	0.84	0.82	0.83	0.82	0.80	0.79
3	0.88	0.84	0.80	0.87	0.83	0.80	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
4	0.83	0.79	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.71
5	0.79	0.75	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
6	0.76	0.71	0.68	0.75	0.71	0.67	0.74	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
7	0.72	0.68	0.64	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.62
8	0.69	0.65	0.61	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60
9	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.57
10	0.64	0.60	0.57	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.55



NATA 2-1566-M

Intensity data(cd)

Appendix Page: 15 Total:15

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	8834.06	8288.44	5461.31	3732.75	2910.38	2189.25	1685.25	1071.00	393.75
45.0	8847.00	8370.00	5543.44	3744.00	2898.00	2182.50	1740.38	1074.38	414.56
90.0	8843.06	8232.75	5288.06	3645.56	2813.06	2077.31	1633.50	960.86	325.29
135.0	8830.13	8580.94	6108.19	3794.63	3042.00	2269.69	1744.88	1100.81	493.88
180.0	8834.06	8408.25	5411.25	3585.38	2838.38	2160.56	1666.69	1005.86	399.60
225.0	8847.00	8381.81	5419.13	3594.38	2825.44	2189.25	1692.00	968.06	389.14
270.0	8843.06	8391.38	5913.00	3789.56	2970.56	2294.44	1768.50	1121.06	438.75
315.0	8830.13	8067.94	4968.00	3539.81	2751.19	2099.25	1607.63	949.78	300.66
360.0	8834.06	8288.44	5461.31	3732.75	2910.38	2189.25	1685.25	1071.00	393.75
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	46.74	26.04	15.75	14.74	14.23	14.01	13.89	14.06	13.84
45.0	46.80	27.96	15.69	14.79	14.34	14.06	14.01	15.98	13.95
90.0	43.14	25.26	15.53	14.63	14.18	13.95	15.53	14.01	13.84
135.0	50.34	27.34	15.75	14.74	14.23	13.95	13.84	13.73	13.67
180.0	45.11	26.04	15.69	14.74	14.29	14.06	13.95	14.12	13.89
225.0	43.26	23.91	15.92	14.91	14.40	14.18	14.18	16.54	14.23
270.0	52.14	29.36	16.14	15.08	14.46	14.06	14.34	14.40	13.95
315.0	44.33	25.43	15.64	14.74	14.23	13.95	13.78	13.73	13.73
360.0	46.74	26.04	15.75	14.74	14.23	14.01	13.89	14.06	13.84
C/γ(°)	90.0								
0.0	13.61								
45.0	13.61								
90.0	13.73								
135.0	14.01								
180.0	13.84								
225.0	13.73								
270.0	13.61								
315.0	13.56								
360.0	13.61								