
Nata

LumCAT: 1450-E

Luminaire:

Report No: NT2015112405

Voltage(V): 29.0000

Test No: GC2015112405

Current(A): 0.9400

LampCAT: XTM LES9

Power (W): 27.2600

Lamp flux(lm): 1366.3

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 44

Width(mm): 44

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1284.00

Efficiency(%): 93.98%

Lumens(lm)/Power(W): 47.10

Central intensity(cd): 3794.444

Maximum intensity(cd): 3794.444

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=25.1

[C90/270]Total=25.1

Field angle(10%Imax): [C0/180]Total=69.6

[C90/270]Total=69.6

Maximum s/h(1/2): C0_180=0.43 C90_270=0.43

Maximum s/h(1/4): C0_180=0.44 C90_270=0.44

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.98%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.474%

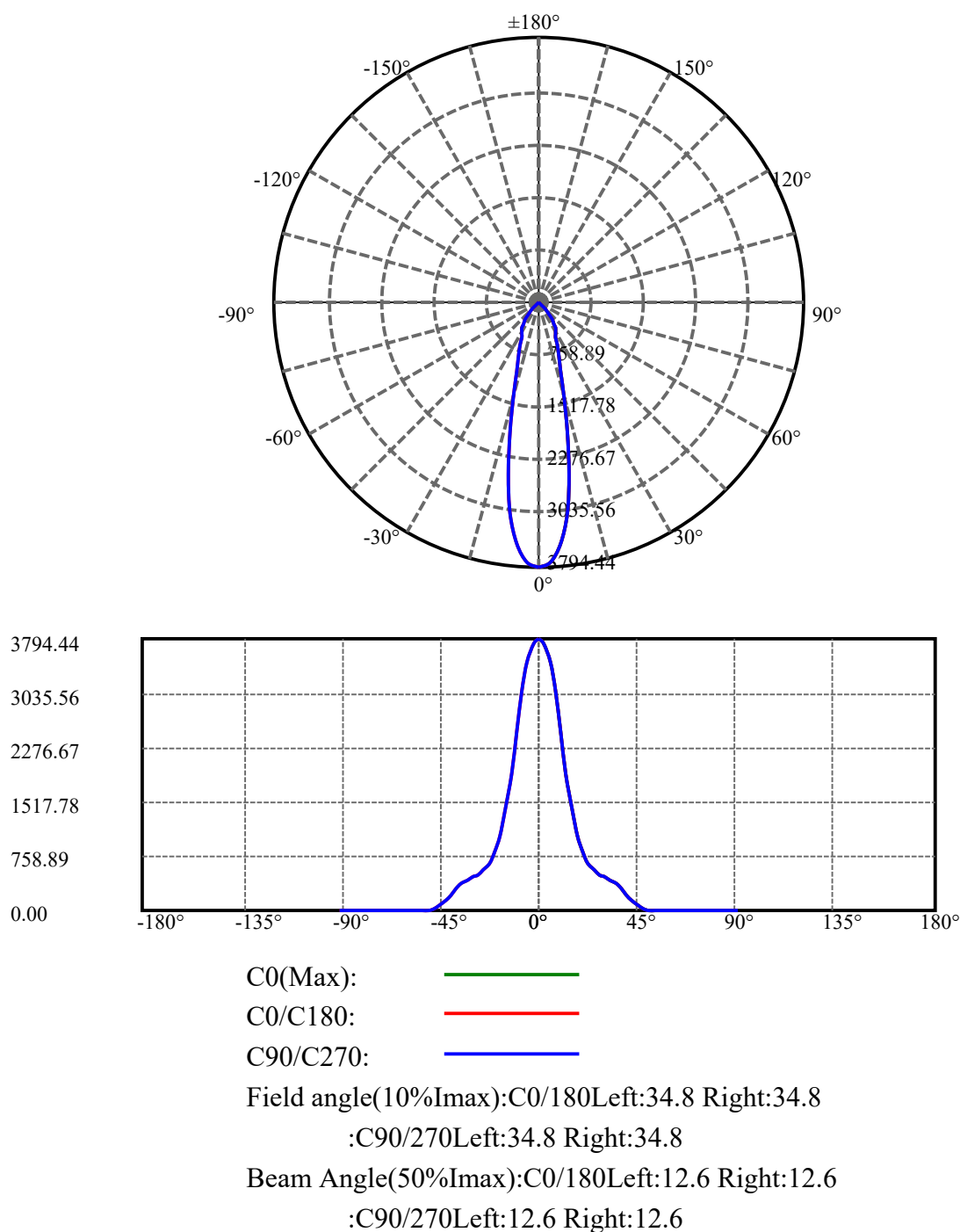
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3794.444	0.000	0	.000%	.000%
2.5	3717.009	22.460	22.46	1.644%	1.749%
5.0	3473.681	64.462	86.922	4.718%	6.770%
7.5	3059.256	97.485	184.407	7.135%	14.362%
10.0	2501.710	115.952	300.359	8.487%	23.392%
12.5	1909.363	117.954	418.313	8.633%	32.579%
15.0	1394.452	107.635	525.947	7.878%	40.962%
17.5	1040.957	93.411	619.358	6.837%	48.237%
20.0	813.631	81.711	701.069	5.980%	54.601%
22.5	664.299	73.421	774.49	5.374%	60.319%
25.0	565.938	67.913	842.403	4.971%	65.608%
27.5	506.127	64.992	907.395	4.757%	70.670%
30.0	466.682	64.135	971.53	4.694%	75.665%
32.5	427.517	63.584	1035.114	4.654%	80.617%
35.0	374.700	61.089	1096.203	4.471%	85.374%
37.5	303.923	55.002	1151.205	4.026%	89.658%
40.0	222.571	45.170	1196.374	3.306%	93.176%
42.5	132.714	32.109	1228.483	2.350%	95.677%
45.0	61.881	18.444	1246.928	1.350%	97.113%
47.5	21.037	8.210	1255.137	.601%	97.752%
50.0	9.120	3.108	1258.245	.227%	97.994%
52.5	6.938	1.717	1259.962	.126%	98.128%
55.0	6.490	1.484	1261.446	.109%	98.244%
57.5	6.378	1.467	1262.913	.107%	98.358%
60.0	6.322	1.488	1264.401	.109%	98.474%
62.5	6.266	1.513	1265.914	.111%	98.592%
65.0	6.266	1.541	1267.454	.113%	98.712%
67.5	6.266	1.572	1269.027	.115%	98.834%
70.0	6.210	1.594	1270.621	.117%	98.958%
72.5	6.266	1.619	1272.24	.119%	99.084%
75.0	6.210	1.642	1273.882	.120%	99.212%
77.5	6.266	1.661	1275.543	.122%	99.342%
80.0	6.210	1.677	1277.22	.123%	99.472%
82.5	6.210	1.683	1278.903	.123%	99.603%
85.0	6.210	1.692	1280.596	.124%	99.735%
87.5	6.210	1.699	1282.294	.124%	99.867%
90.0	6.210	1.702	1283.996	.125%	100.000%

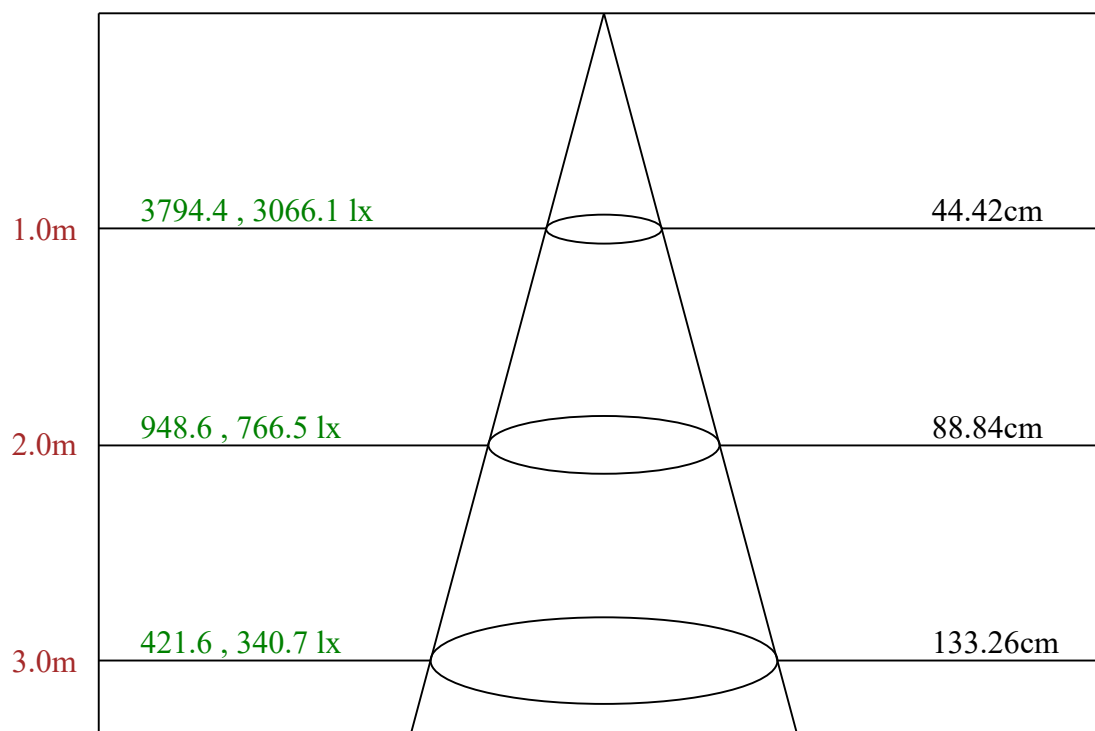
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	971.53	71.11%	75.66%
0-40	1196.37	87.56%	93.18%
0-60	1264.40	92.54%	98.47%
0-90	1282.29	93.85%	99.87%
0-120	1282.29	93.85%	99.87%
0-180	1284.00	93.98%	100.00%
60-90	19.38	1.42%	1.51%
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%
0-32.19	1027.20	75.18%	80.00%

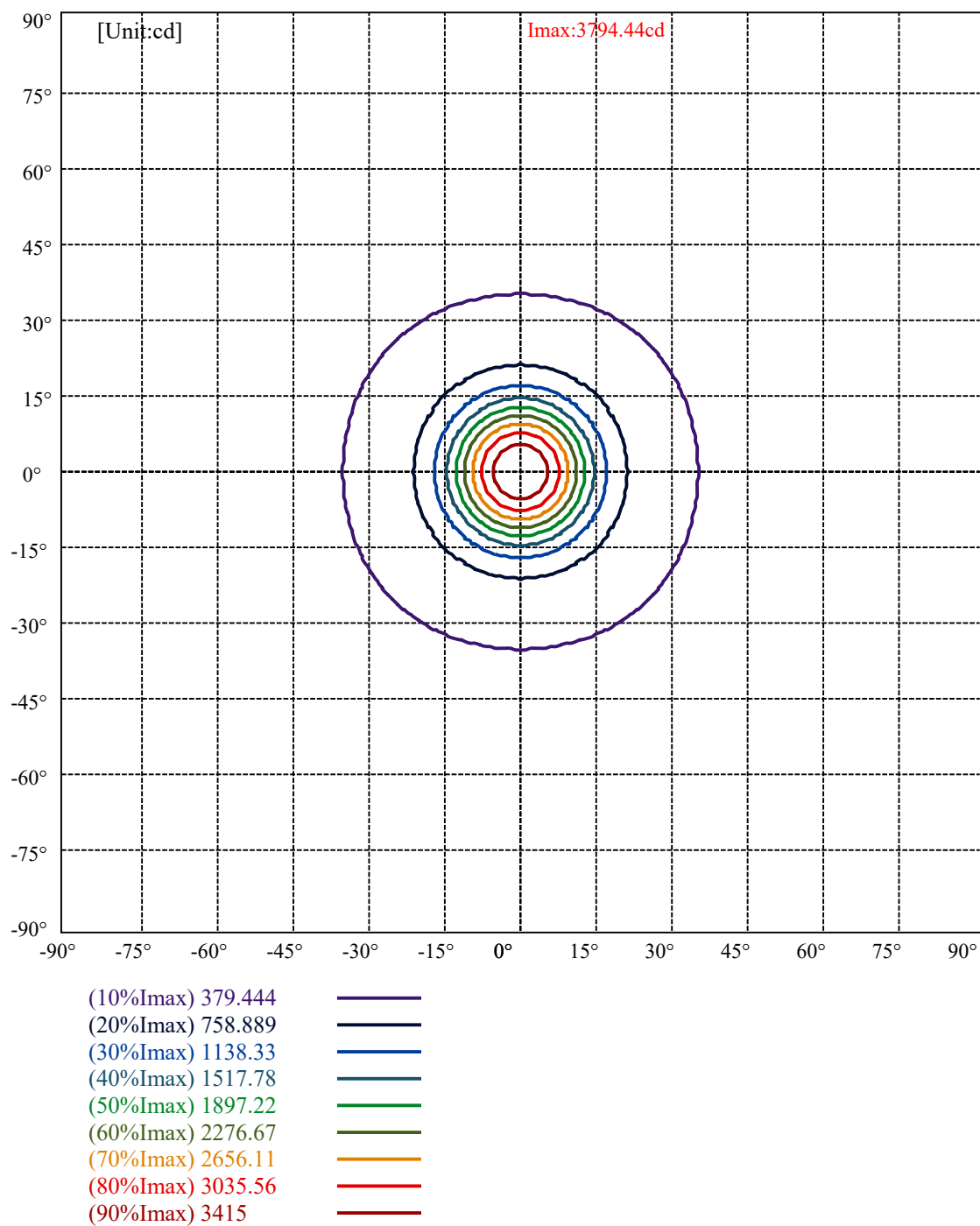
ZONAL LUMEN SUMMARY

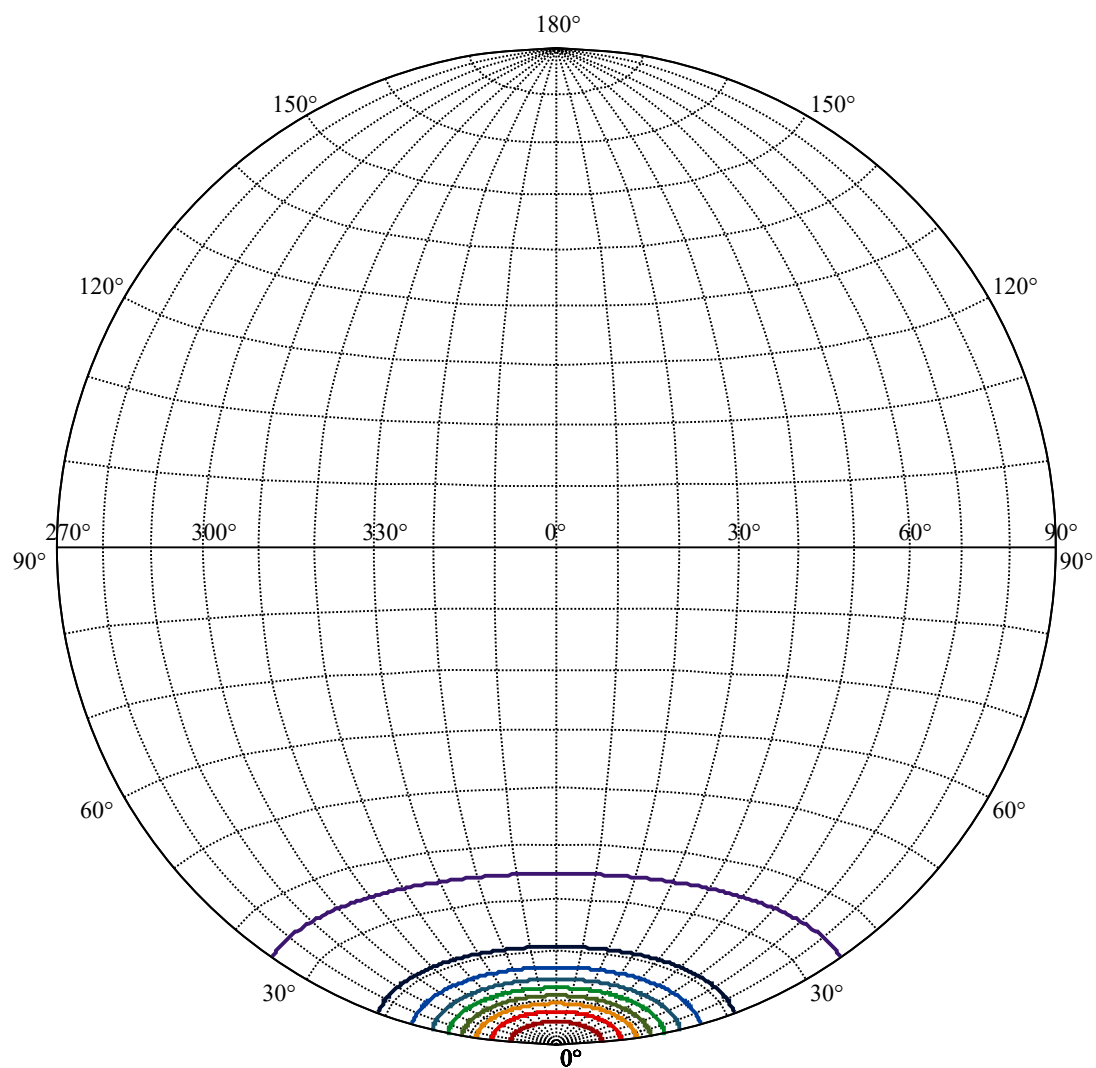
0-10	300.36
10-20	400.71
20-30	270.46
30-40	224.84
40-50	61.87
50-60	6.16
60-70	6.22
70-80	6.60
80-90	5.07
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 25.04





House

[Unit:cd]

Road

Imax:3794.44

(10%Imax) 379.444

(20%Imax) 758.889

(30%Imax) 1138.33

(40%Imax) 1517.78

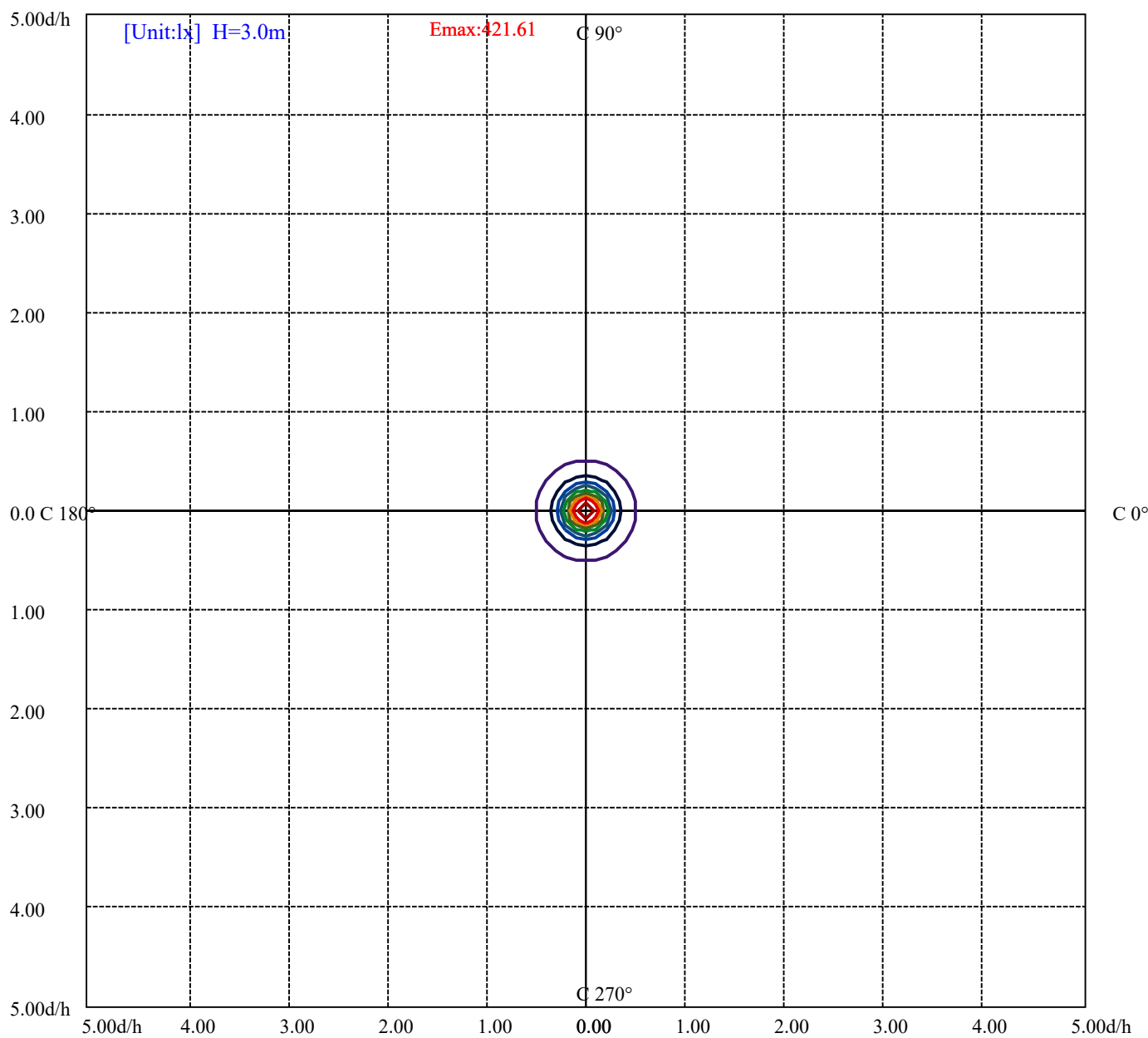
(50%Imax) 1897.22

(60%Imax) 2276.67

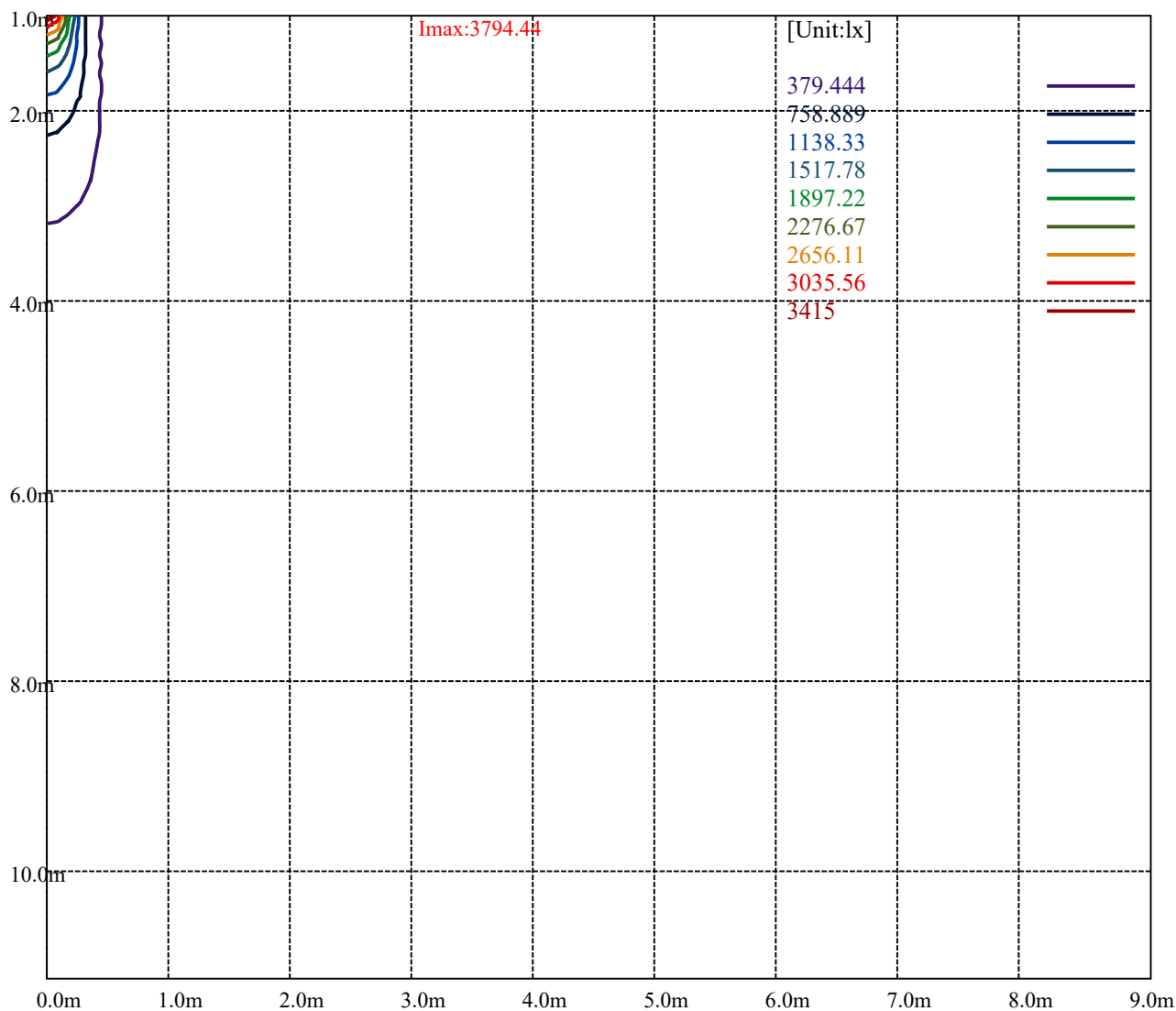
(70%Imax) 2656.11

(80%Imax) 3035.56

(90%Imax) 3415



(10%Emax)	42.16045	
(20%Emax)	84.32089	
(30%Emax)	126.4811	
(40%Emax)	168.6422	
(50%Emax)	210.8022	
(60%Emax)	252.9622	
(70%Emax)	295.1234	
(80%Emax)	337.2833	
(90%Emax)	379.4445	



Luminance Table

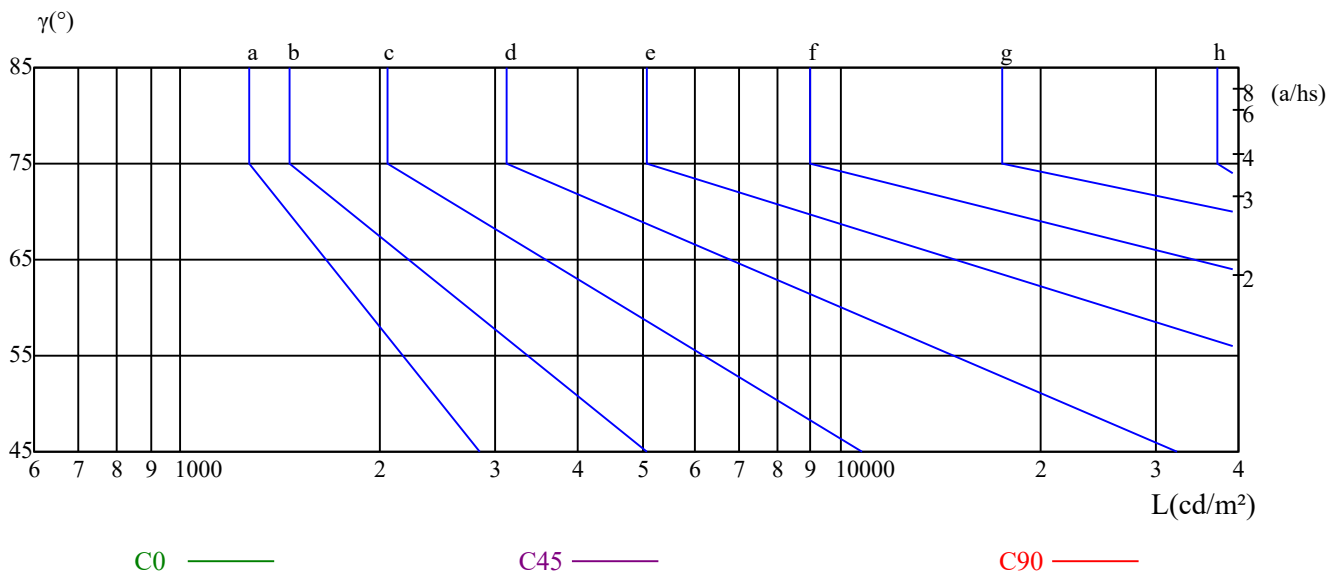
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

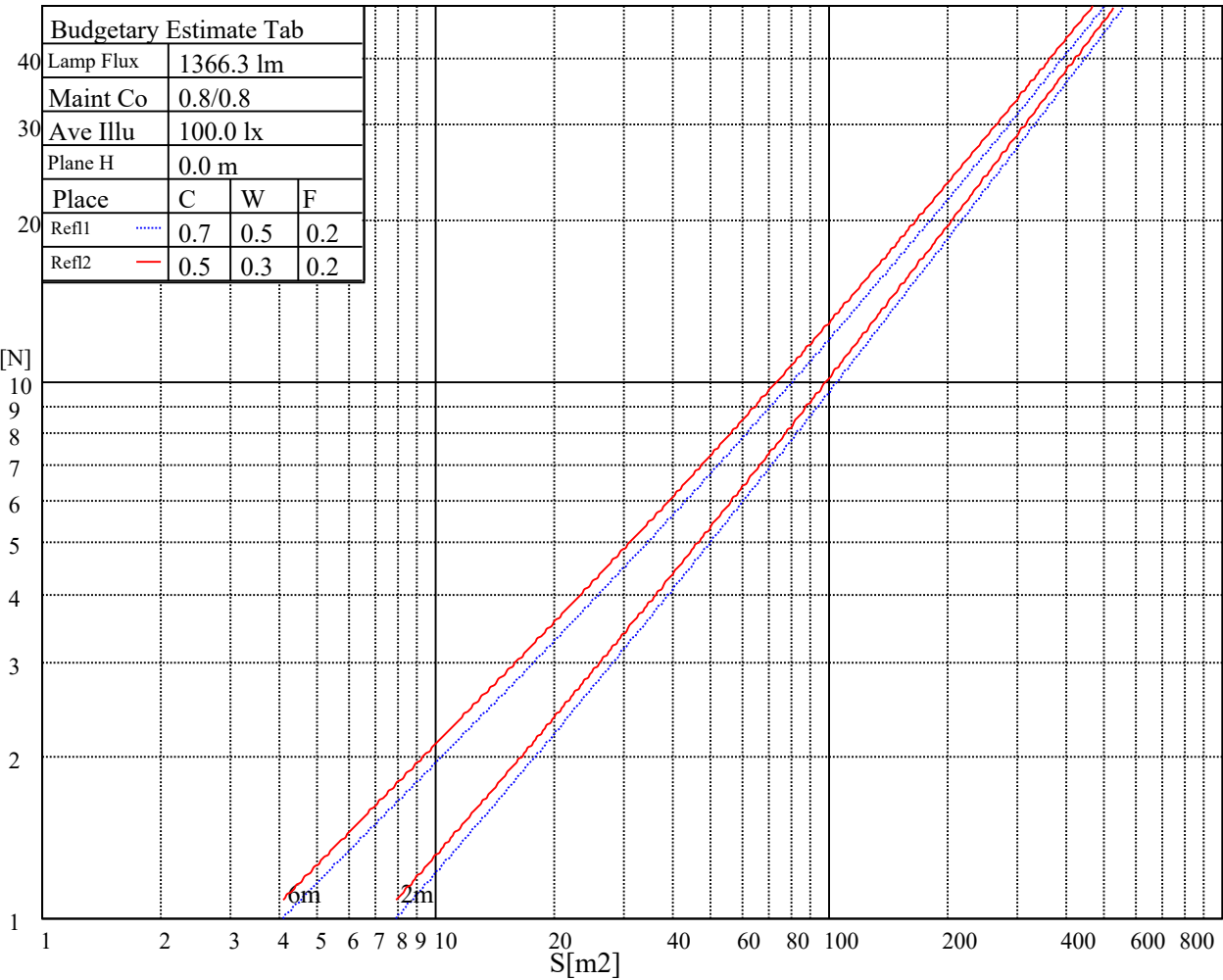
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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 RHOF=20 CU															
0	1.12	1.12	1.12	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.04	1.02	1.00	1.02	1.00	0.99	0.99	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.88
2	0.98	0.94	0.92	0.96	0.93	0.91	0.93	0.91	0.89	0.91	0.89	0.87	0.88	0.86	0.85	0.83
3	0.92	0.88	0.85	0.91	0.87	0.84	0.89	0.85	0.83	0.86	0.84	0.81	0.84	0.82	0.80	0.79
4	0.87	0.82	0.79	0.86	0.82	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.81	0.78	0.76	0.74
5	0.83	0.78	0.74	0.82	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.72	0.71
6	0.78	0.73	0.70	0.78	0.73	0.70	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.68	0.67
7	0.75	0.70	0.66	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.64
8	0.71	0.66	0.63	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.61
9	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.58
10	0.65	0.61	0.57	0.65	0.61	0.57	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.56

Nata 1450-E

Intensity data(cd)										Appendix Page: 13 Total:13	
C/ γ (°)	0.0	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0		
0.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
45.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
90.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
135.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
180.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
225.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
270.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
315.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
360.0	3794.44	3717.01	3473.68	3059.26	2501.71	1909.36	1394.45	1040.96	813.63		
C/ γ (°)	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5		
0.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
45.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
90.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
135.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
180.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
225.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
270.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
315.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
360.0	664.30	565.94	506.13	466.68	427.52	374.70	303.92	222.57	132.71		
C/ γ (°)	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0		
0.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
45.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
90.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
135.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
180.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
225.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
270.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
315.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
360.0	61.88	21.04	9.12	6.94	6.49	6.38	6.32	6.27	6.27		
C/ γ (°)	67.5	70.0	72.5	75.0	77.5	80.0	82.5	85.0	87.5		
0.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
45.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
90.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
135.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
180.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
225.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
270.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
315.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
360.0	6.27	6.21	6.27	6.21	6.27	6.21	6.21	6.21	6.21		
C/ γ (°)	90.0										
0.0	6.21										
45.0	6.21										
90.0	6.21										
135.0	6.21										
180.0	6.21										
225.0	6.21										
270.0	6.21										
315.0	6.21										
360.0	6.21										