
Nata

LumCAT: 1536-A	
Luminaire: 92.70.043.00	
Report No: NT2016040305	Voltage(V): 9.4000
Test No: GC2016040305	Current(A): 0.3500
LampCAT: CREE CXA1304	Power (W): 0.0000
Lamp flux(lm): 395.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 30	Width(mm): 30
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 319.86
Efficiency(%): 80.98%
Lumens(lm)/Power(W): 0.00
Central intensity(cd): 391.596
Maximum intensity(cd): 391.596
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=55.1
[C90/270]Total=55.1
Field angle(10%Imax): [C0/180]Total=84.7
[C90/270]Total=84.7
Maximum s/h(1/2): C0_180=0.81 C90_270=0.81
Maximum s/h(1/4): C0_180=0.87 C90_270=0.87
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 80.98%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.279%

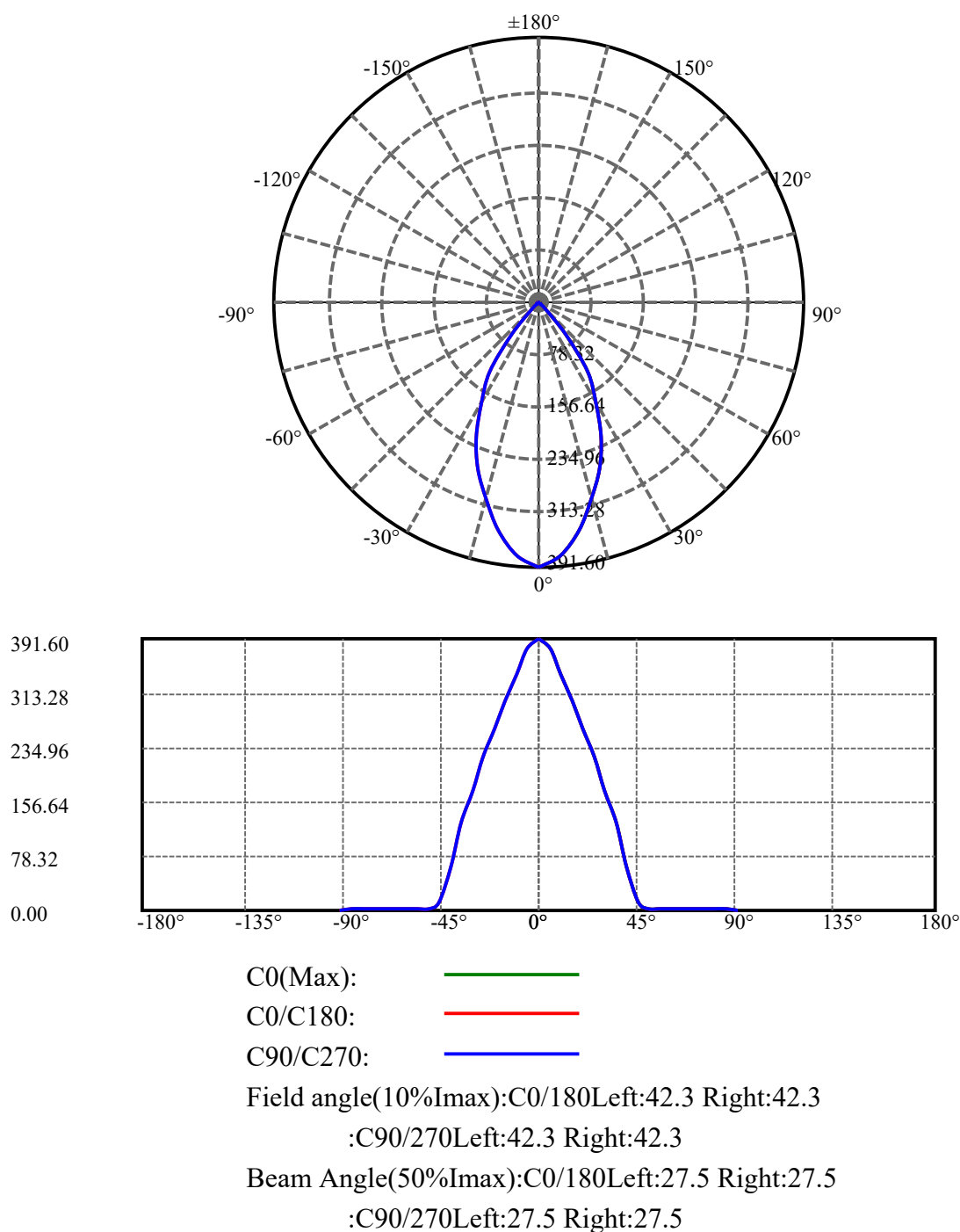
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	391.596	0.000	0	.000%	.000%
5.0	376.761	9.185	9.185	2.325%	2.872%
10.0	341.198	25.684	34.869	6.502%	10.901%
15.0	302.545	38.186	73.056	9.667%	22.840%
20.0	262.189	46.542	119.598	11.783%	37.391%
25.0	220.566	50.632	170.23	12.818%	53.220%
30.0	171.683	49.639	219.869	12.567%	68.739%
35.0	125.474	43.758	263.628	11.078%	82.420%
40.0	62.372	31.341	294.968	7.934%	92.218%
45.0	12.890	13.935	308.904	3.528%	96.575%
50.0	3.321	3.276	312.179	.829%	97.599%
55.0	2.209	1.202	313.382	.304%	97.974%
60.0	2.003	0.974	314.355	.246%	98.279%
65.0	1.889	0.946	315.301	.240%	98.575%
70.0	1.745	0.920	316.221	.233%	98.862%
75.0	1.628	0.881	317.103	.223%	99.138%
80.0	1.820	0.923	318.025	.234%	99.426%
85.0	1.913	1.014	319.04	.257%	99.743%
90.0	1.084	0.821	319.86	.208%	100.000%

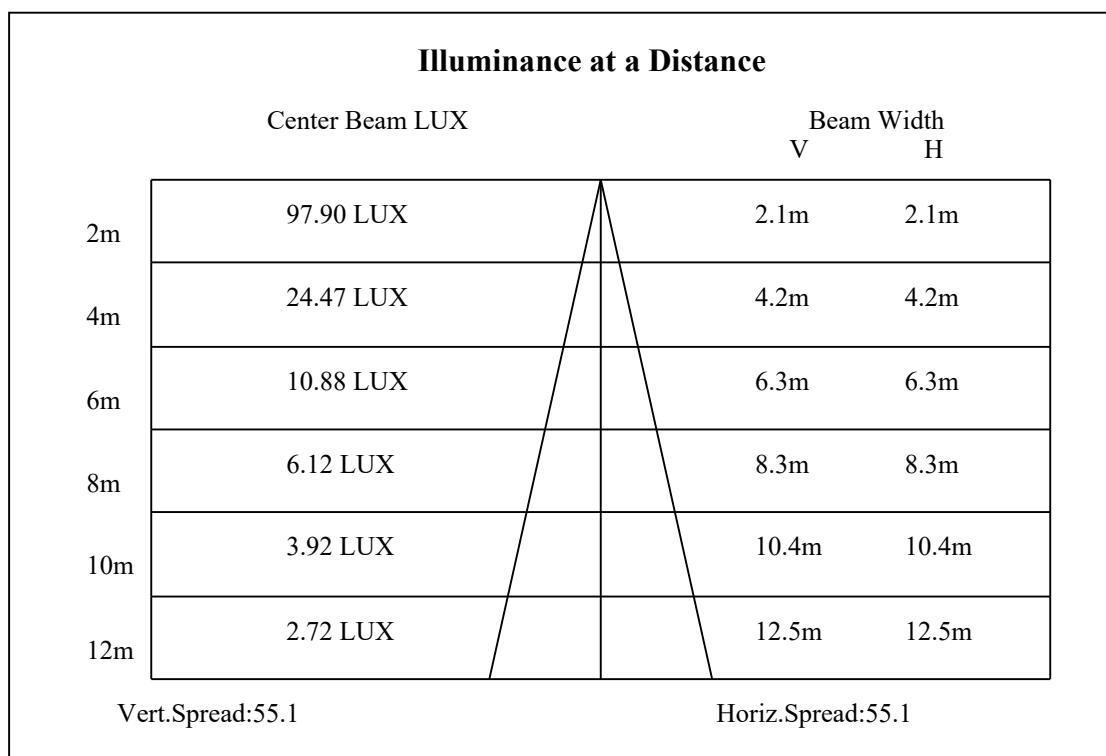
ZONAL LUMEN SUMMARY

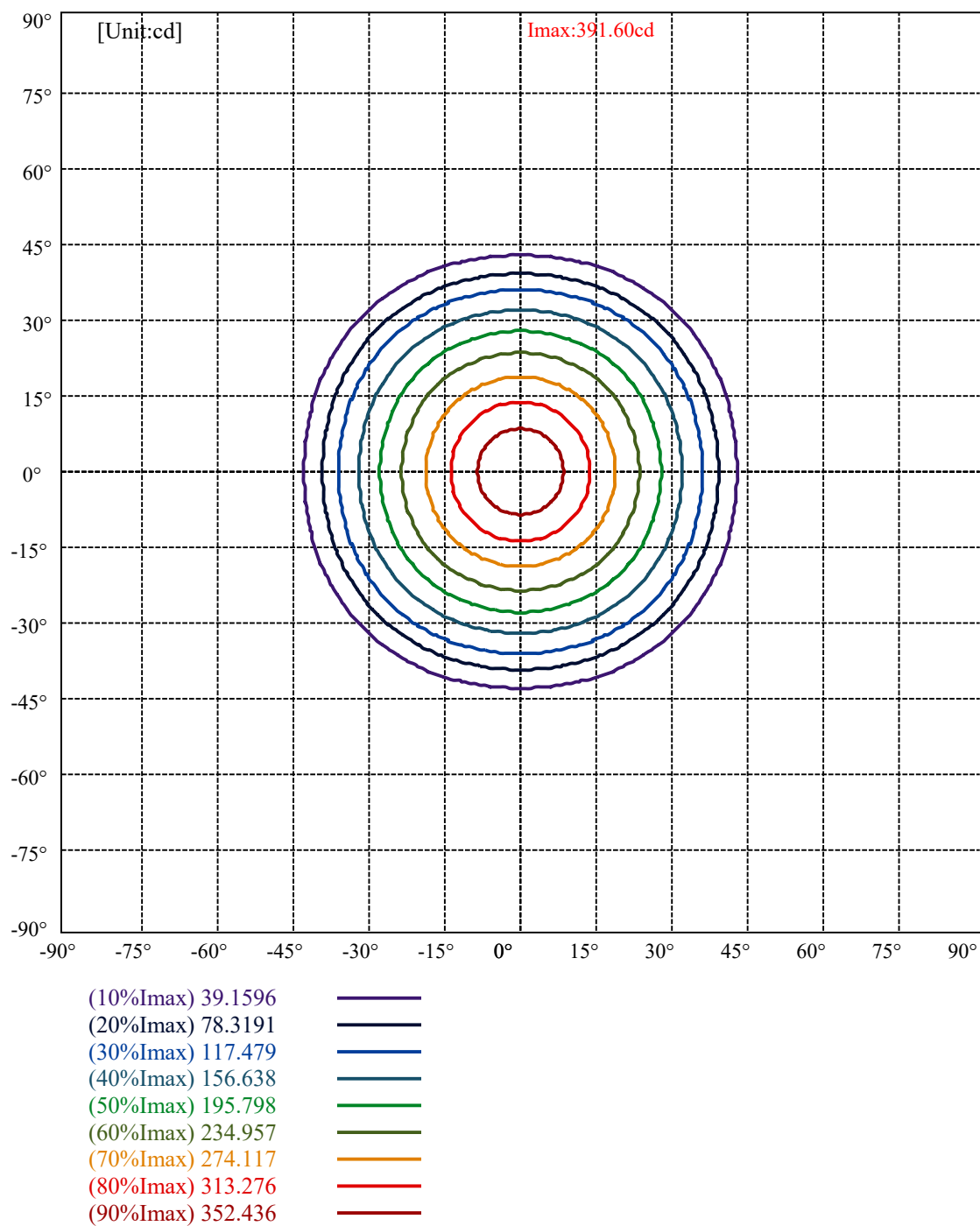
Zone	Lumens	%Lamp	%Fixt
0-30	219.87	55.66%	68.74%
0-40	294.97	74.68%	92.22%
0-60	314.36	79.58%	98.28%
0-90	319.04	80.77%	99.74%
0-120	319.04	80.77%	99.74%
0-180	319.86	80.98%	100.00%
60-90	5.66	1.43%	1.77%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-34.12	255.89	64.78%	80.00%

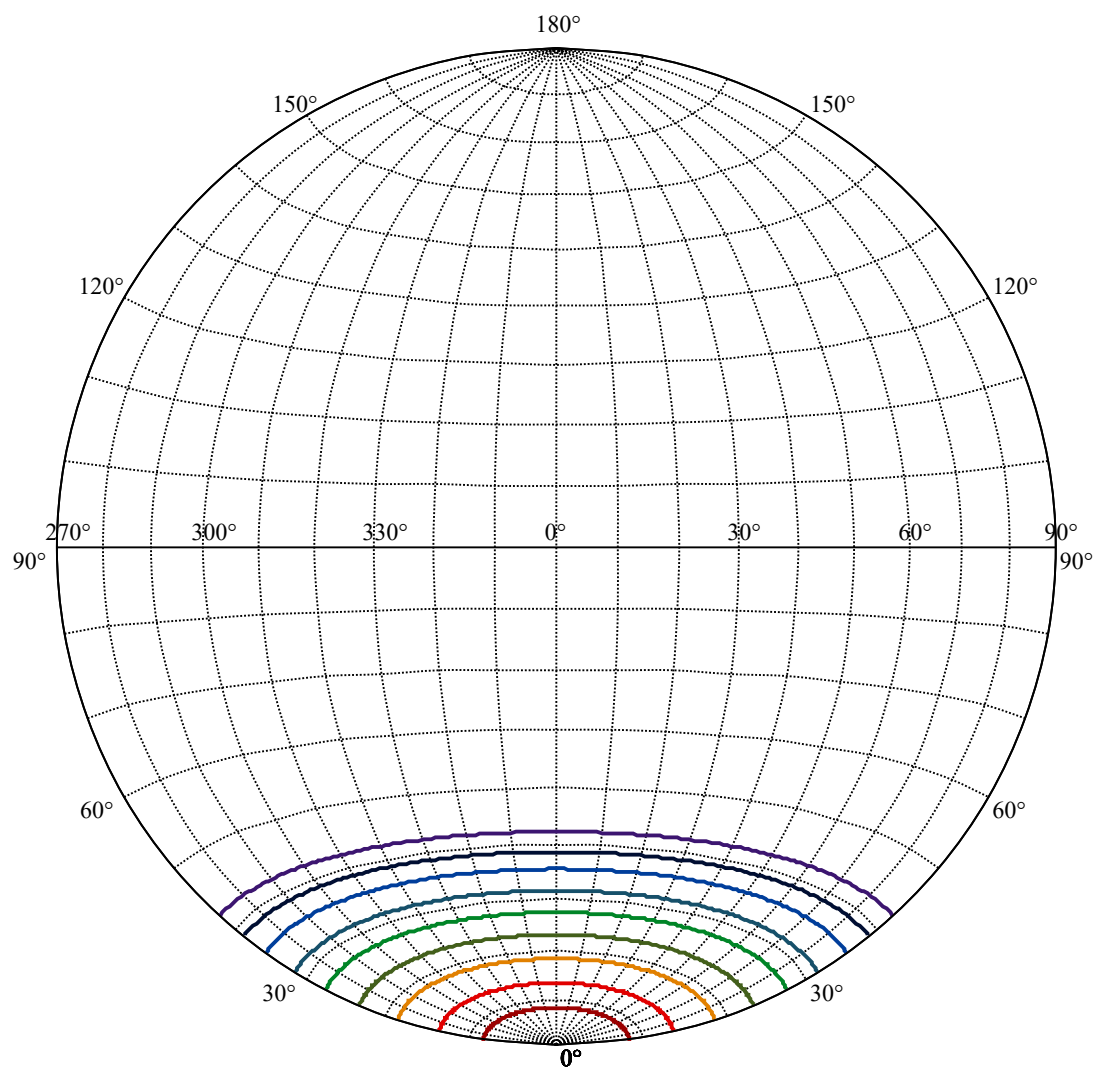
ZONAL LUMEN SUMMARY

0-10	34.87
10-20	84.73
20-30	100.27
30-40	75.10
40-50	17.21
50-60	2.18
60-70	1.87
70-80	1.80
80-90	1.01
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:391.60

(10%Imax) 39.1596

(20%Imax) 78.3191

(30%Imax) 117.479

(40%Imax) 156.638

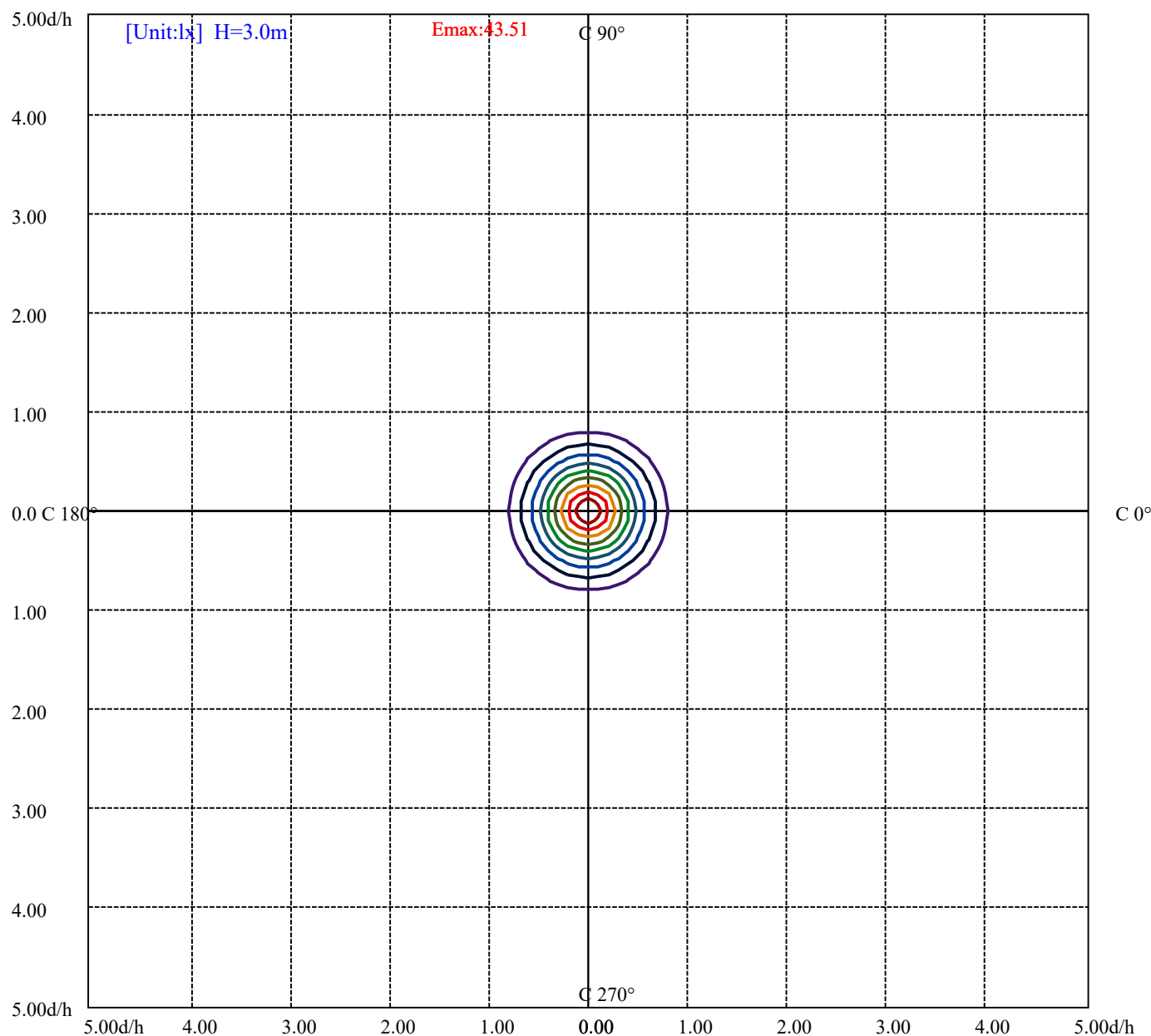
(50%Imax) 195.798

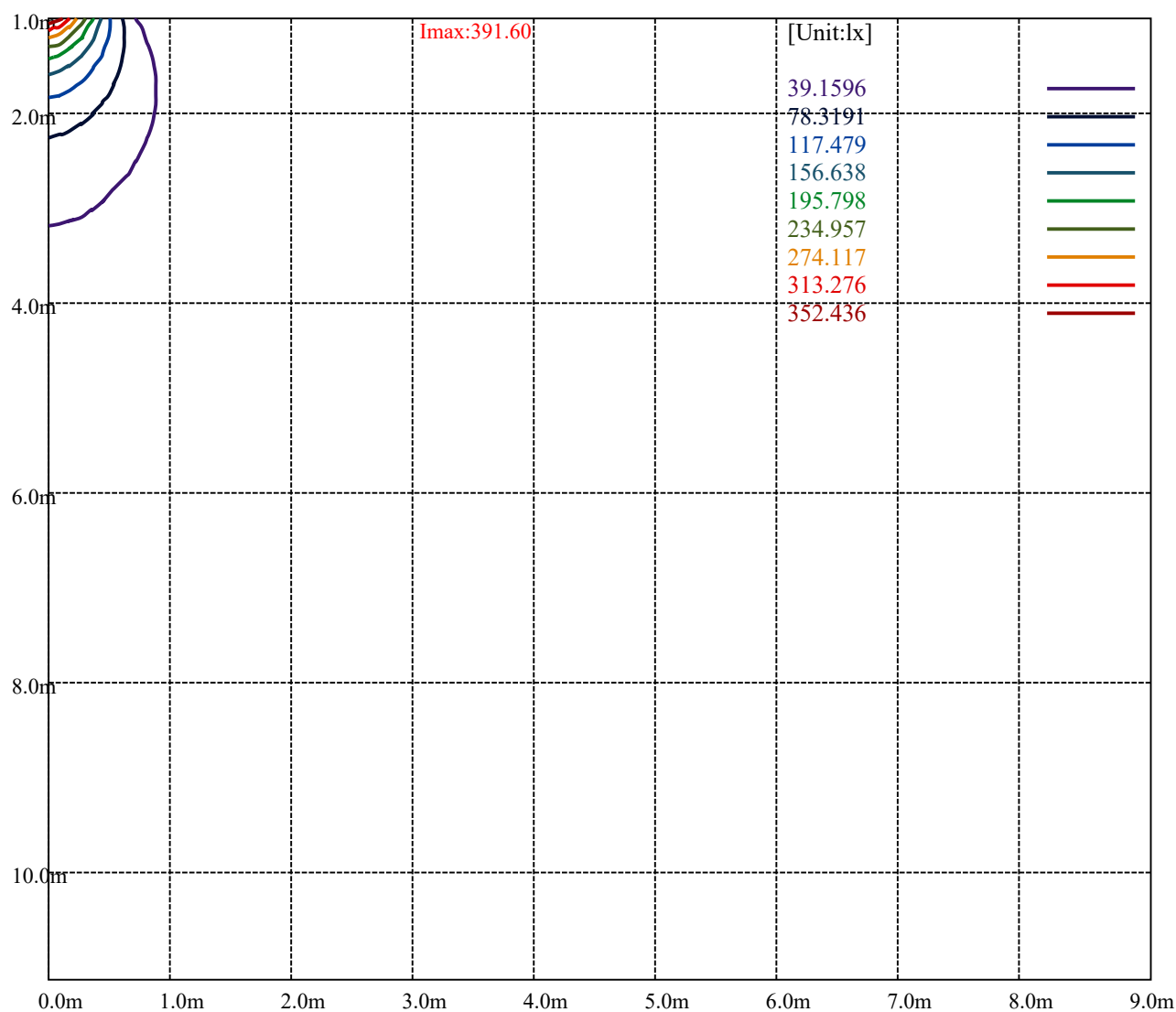
(60%Imax) 234.957

(70%Imax) 274.117

(80%Imax) 313.276

(90%Imax) 352.436





Luminance Table

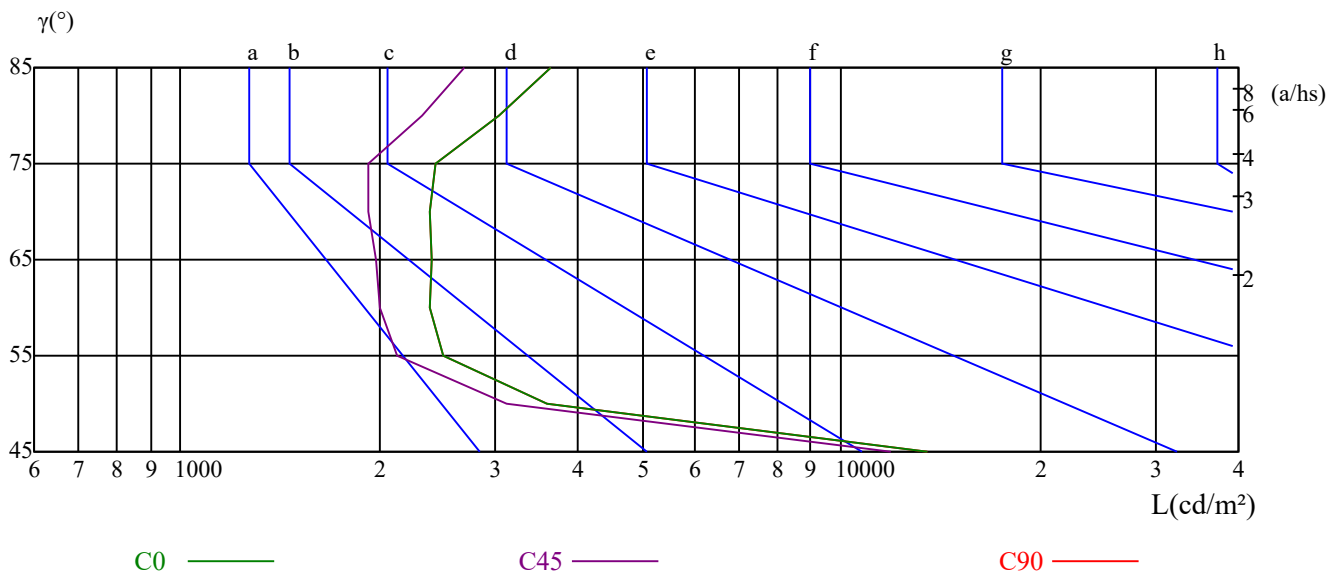
γ	45	50	55	60	65	70	75	80	85
C0	13503	3597	2497	2385	2397	2388	2438	3037	3632
C45	11865	3115	2129	2000	1974	1926	1920	2325	2686
C90	13503	3597	2497	2385	2397	2388	2438	3037	3632

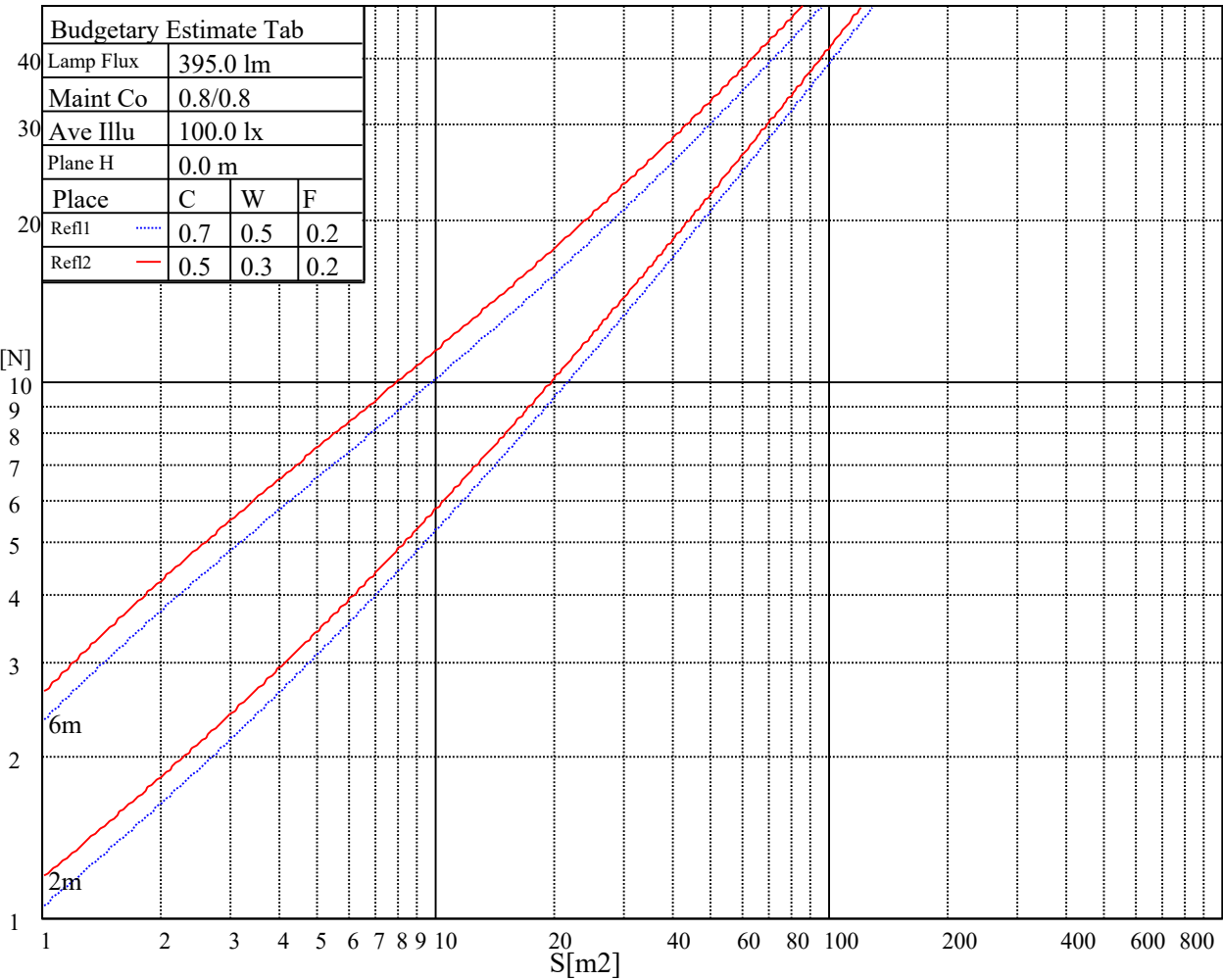
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4967	4967	4967	6987	6987	6987	24391	24391	24391

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	0.96	0.96	0.96	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.83	0.83	0.83	0.81
1	0.89	0.87	0.85	0.88	0.86	0.84	0.84	0.83	0.81	0.81	0.80	0.79	0.78	0.78	0.77	0.75
2	0.83	0.80	0.77	0.82	0.79	0.76	0.79	0.76	0.74	0.77	0.74	0.73	0.74	0.73	0.71	0.70
3	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.65
4	0.72	0.68	0.64	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.62	0.66	0.64	0.62	0.60
5	0.68	0.63	0.59	0.67	0.62	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.57	0.56
6	0.63	0.58	0.55	0.63	0.58	0.55	0.61	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.54	0.52
7	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.56	0.53	0.50	0.49
8	0.56	0.51	0.48	0.56	0.51	0.48	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.46
9	0.53	0.48	0.45	0.52	0.48	0.45	0.52	0.47	0.45	0.51	0.47	0.44	0.50	0.47	0.44	0.43
10	0.50	0.45	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.48	0.45	0.42	0.48	0.44	0.42	0.41

Nata 1536-E

Intensity data(cd)									Appendix Page: 13 Total:13		
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	392.28	380.49	345.64	304.57	266.69	226.78	182.84	139.79	85.01		
22.5	390.40	374.88	340.58	300.94	261.02	223.47	181.63	137.59	77.85		
45.0	391.95	371.30	329.62	289.05	252.49	215.60	166.60	121.18	53.62		
67.5	392.66	375.81	338.05	296.48	262.01	219.68	173.54	110.61	42.17		
90.0	390.57	370.09	330.50	293.78	255.46	215.66	164.84	114.46	45.97		
112.5	391.40	373.34	338.60	301.87	261.13	219.51	170.95	129.93	65.46		
135.0	391.56	371.63	334.63	297.86	257.00	212.96	160.82	116.55	51.26		
157.5	392.17	376.59	345.31	306.83	264.38	217.64	169.52	124.48	61.11		
180.0	392.28	375.21	340.19	304.24	260.97	213.84	159.99	117.66	50.54		
202.5	390.40	376.15	344.93	310.13	266.03	219.07	166.16	119.91	54.23		
225.0	391.95	383.85	352.64	313.88	275.72	228.98	175.52	127.13	68.21		
247.5	392.66	378.40	342.95	303.69	262.01	220.17	167.15	114.30	47.51		
270.0	390.57	381.76	347.85	307.93	266.91	229.20	178.11	131.97	71.79		
292.5	391.40	379.23	340.85	303.09	259.04	221.16	172.44	129.55	67.61		
315.0	391.12	382.86	348.07	306.61	267.74	226.45	181.63	138.52	84.57		
337.5	392.17	376.59	338.76	299.78	256.40	218.90	175.19	133.95	71.02		
360.0	392.28	380.49	345.64	304.57	266.69	226.78	182.84	139.79	85.01		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	23.40	3.58	2.31	1.98	1.82	1.65	1.49	1.76	3.19		
22.5	18.77	3.52	2.26	1.98	1.87	1.65	1.54	1.76	1.93		
45.0	9.97	2.97	2.20	1.98	1.87	1.71	1.65	2.20	1.43		
67.5	5.84	3.03	2.37	2.15	2.04	1.93	1.82	1.65	1.54		
90.0	6.94	3.03	2.20	1.98	1.87	1.71	1.54	1.43	1.27		
112.5	11.89	3.63	2.09	1.93	1.82	1.65	1.49	1.32	1.21		
135.0	8.42	3.52	1.98	1.82	1.71	1.60	1.43	1.38	1.10		
157.5	10.13	3.30	1.93	1.71	1.60	1.49	1.43	1.43	1.10		
180.0	7.54	2.75	1.82	1.60	1.54	1.43	1.38	1.27	1.05		
202.5	8.64	3.03	1.98	1.82	1.65	1.54	1.43	1.32	1.21		
225.0	14.31	3.63	2.42	2.26	2.09	1.87	1.76	1.65	1.49		
247.5	7.82	3.36	2.37	2.15	2.04	1.93	1.71	1.60	1.54		
270.0	18.22	3.80	2.70	2.64	2.64	2.53	2.42	2.31	2.26		
292.5	15.91	3.25	2.26	2.09	1.98	1.82	1.76	2.75	3.52		
315.0	22.74	3.47	2.26	2.04	1.87	1.76	1.60	2.42	2.15		
337.5	15.69	3.25	2.20	1.93	1.82	1.65	1.60	2.86	4.62		
360.0	23.40	3.58	2.31	1.98	1.82	1.65	1.49	1.76	3.19		
C/γ(°)	90.0										
0.0	1.05										
22.5	1.05										
45.0	1.05										
67.5	1.10										
90.0	1.10										
112.5	1.05										
135.0	1.05										
157.5	1.05										
180.0	1.05										
202.5	1.10										
225.0	1.10										
247.5	1.10										
270.0	1.16										
292.5	1.16										
315.0	1.10										
337.5	1.10										
360.0	1.05										