
Nata

LumCAT: 1687-M	
Luminaire: 92.70.125.00	
Report No: NT2017110102	Voltage(V): 19.9000
Test No: GC2017110102	Current(A): 0.3000
LampCAT: NICHIA NVNWS007Z-V1	Power (W): 5.9700
Lamp flux(lm): 810.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 46	Width(mm): 46
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 741.67
Efficiency(%): 91.56%
Lumens(lm)/Power(W): 124.23
Central intensity(cd): 2745.250
Maximum intensity(cd): 2745.250
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=19.7
[C90/270]Total=19.7
Field angle(10%Imax): [C0/180]Total=52.8
[C90/270]Total=52.8
Maximum s/h(1/2): C0_180=0.34 C90_270=0.34
Maximum s/h(1/4): C0_180=0.36 C90_270=0.36
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.56%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.782%

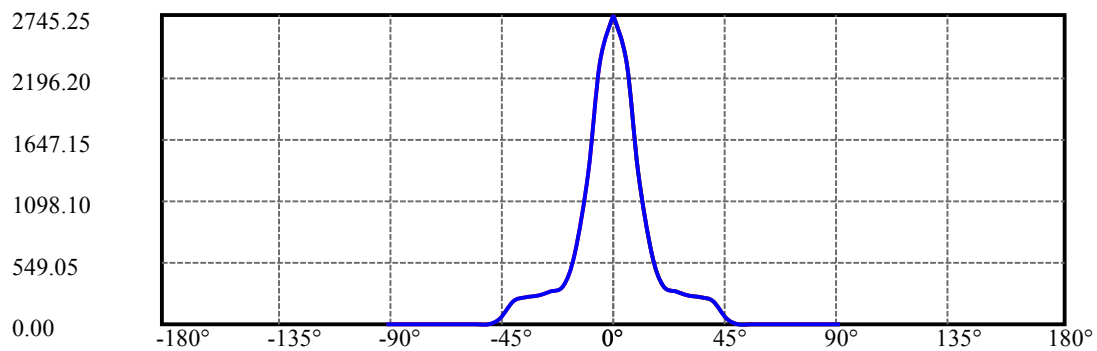
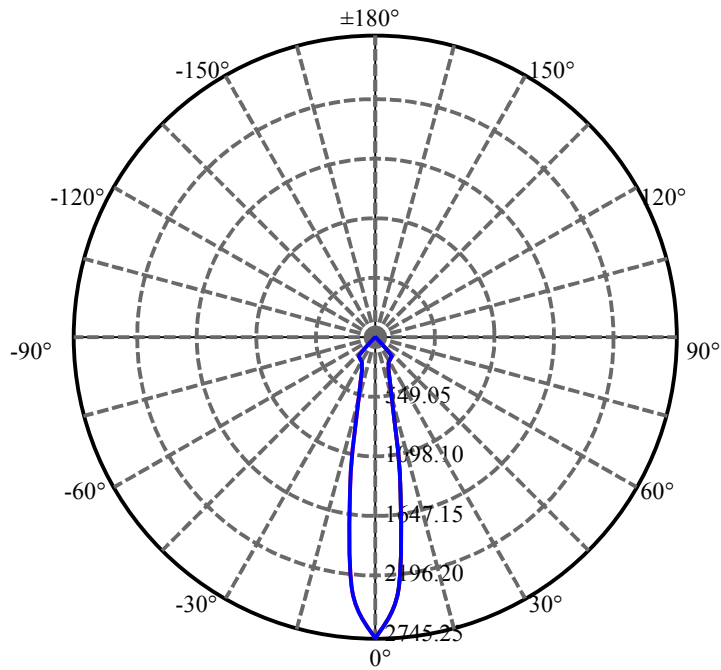
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2745.250	0.000	0	.000%	.000%
5.0	2321.591	60.573	60.573	7.478%	8.167%
10.0	1347.664	131.261	191.833	16.205%	25.865%
15.0	634.050	117.554	309.387	14.513%	41.715%
20.0	335.748	79.925	389.312	9.867%	52.491%
25.0	282.185	64.810	454.122	8.001%	61.230%
30.0	255.028	67.985	522.107	8.393%	70.396%
35.0	236.460	72.375	594.482	8.935%	80.154%
40.0	206.654	73.930	668.412	9.127%	90.122%
45.0	52.090	47.909	716.321	5.915%	96.582%
50.0	7.667	12.075	728.396	1.491%	98.210%
55.0	4.060	2.550	730.945	.315%	98.554%
60.0	3.262	1.693	732.638	.209%	98.782%
65.0	3.042	1.533	734.17	.189%	98.989%
70.0	2.911	1.507	735.678	.186%	99.192%
75.0	2.829	1.500	737.178	.185%	99.394%
80.0	2.767	1.497	738.675	.185%	99.596%
85.0	2.753	1.500	740.175	.185%	99.798%
90.0	2.712	1.496	741.671	.185%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	522.11	64.46%	70.40%
0-40	668.41	82.52%	90.12%
0-60	732.64	90.45%	98.78%
0-90	740.17	91.38%	99.80%
0-120	740.17	91.38%	99.80%
0-180	741.67	91.56%	100.00%
60-90	9.23	1.14%	1.24%
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%
0-34.92	593.34	73.25%	80.00%

ZONAL LUMEN SUMMARY

0-10	191.83
10-20	197.48
20-30	132.79
30-40	146.31
40-50	59.98
50-60	4.24
60-70	3.04
70-80	3.00
80-90	1.50
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: —————

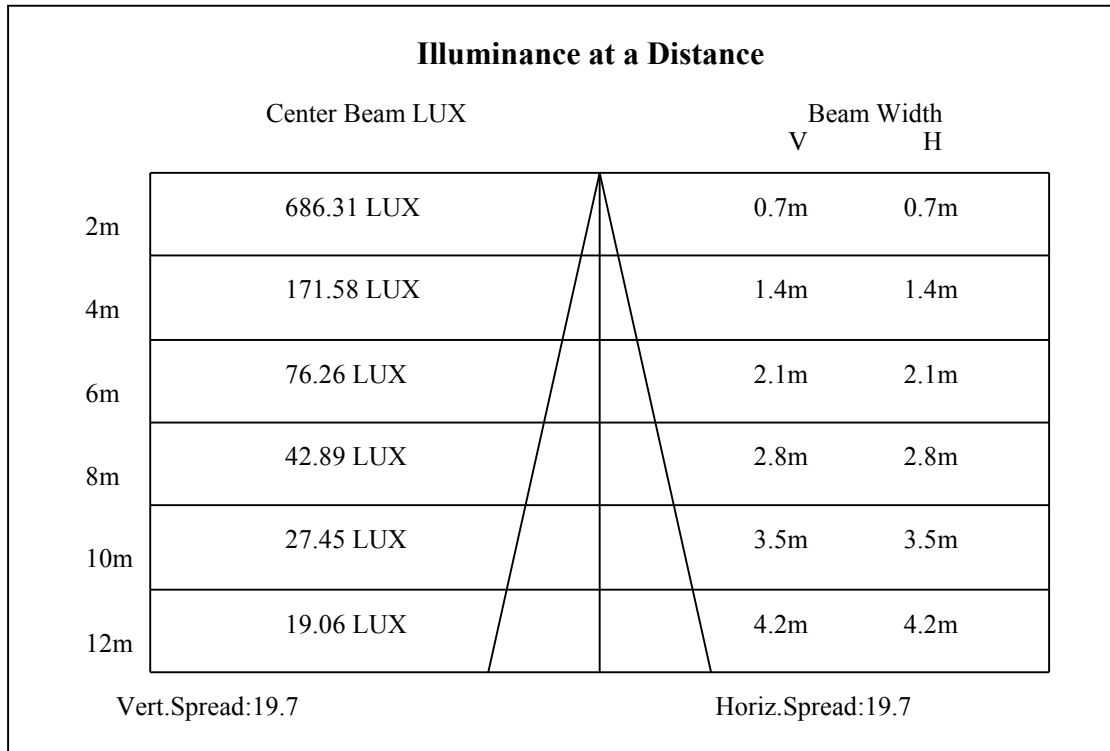
C90/C270: —————

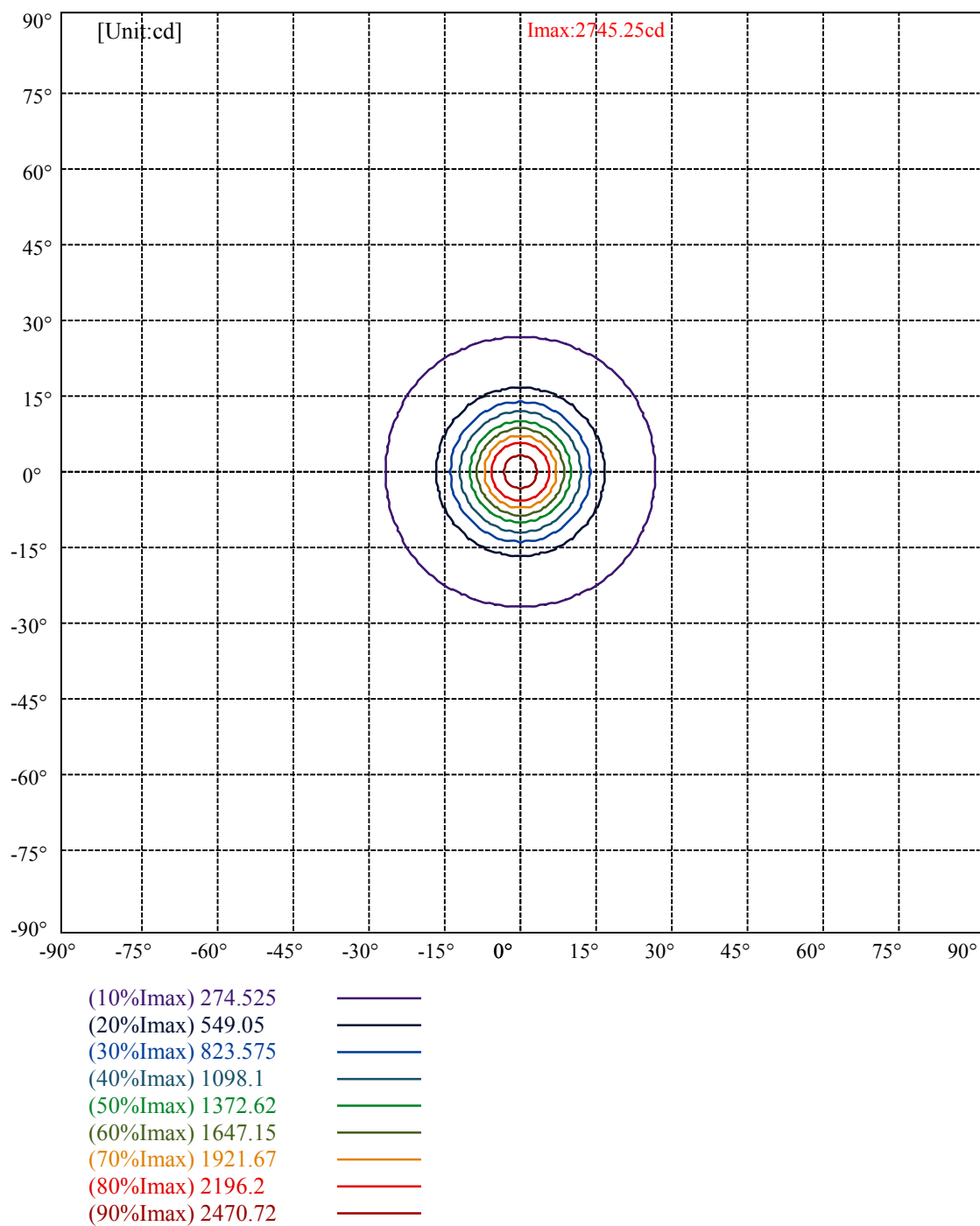
Field angle(10%Imax):C0/180Left:26.4 Right:26.4

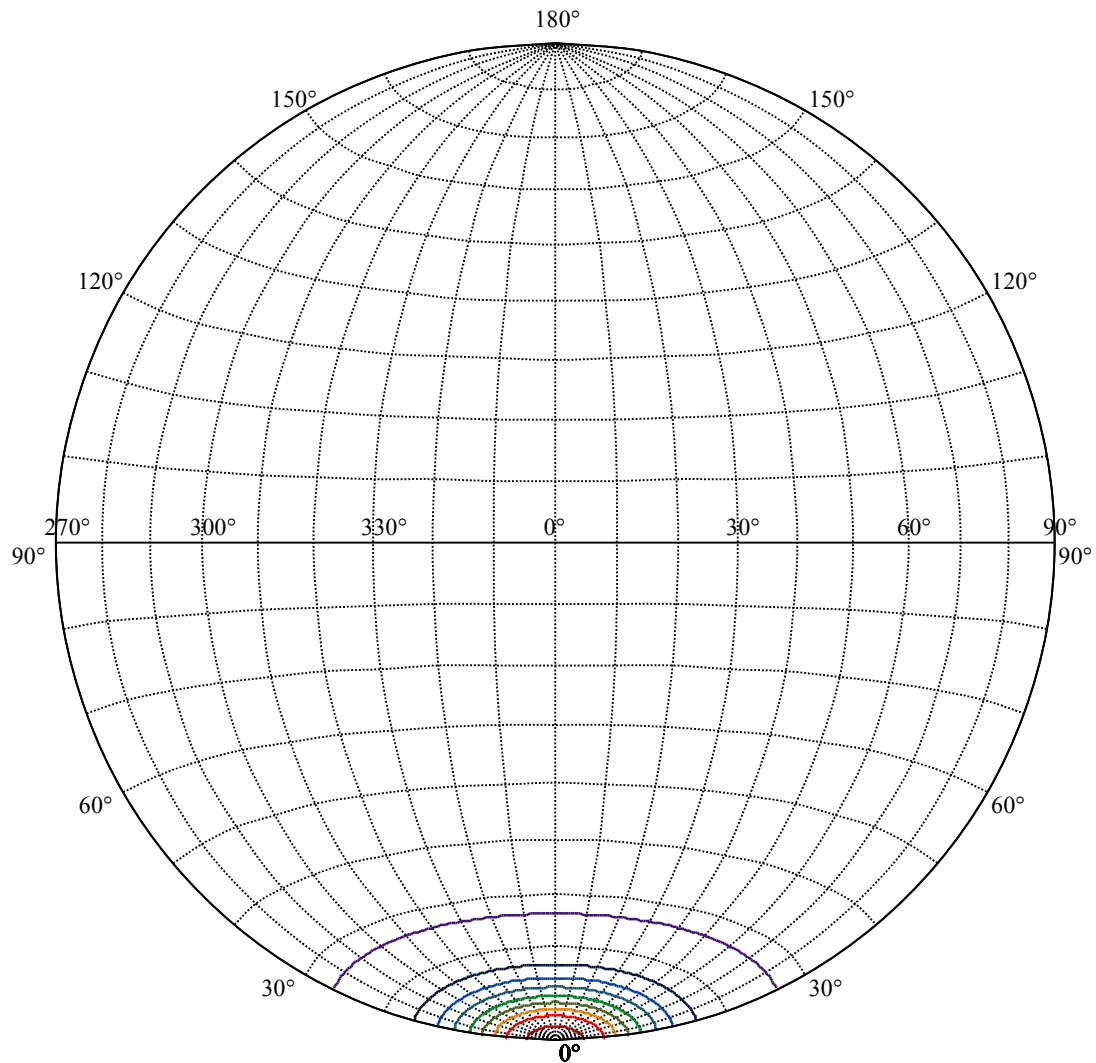
:C90/270Left:26.4 Right:26.4

Beam Angle(50%Imax):C0/180Left:9.9 Right:9.9

:C90/270Left:9.9 Right:9.9







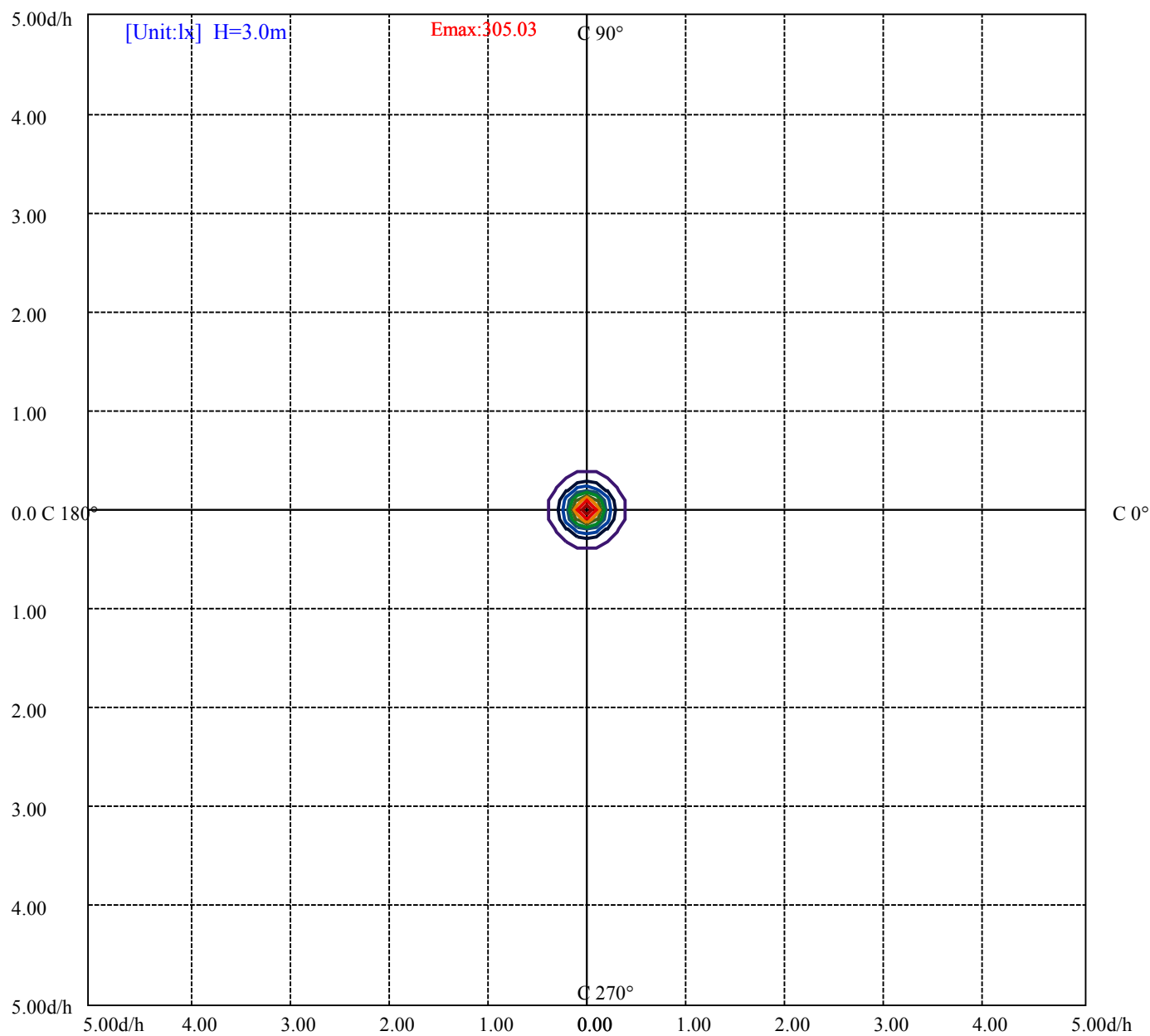
House

[Unit:cd]

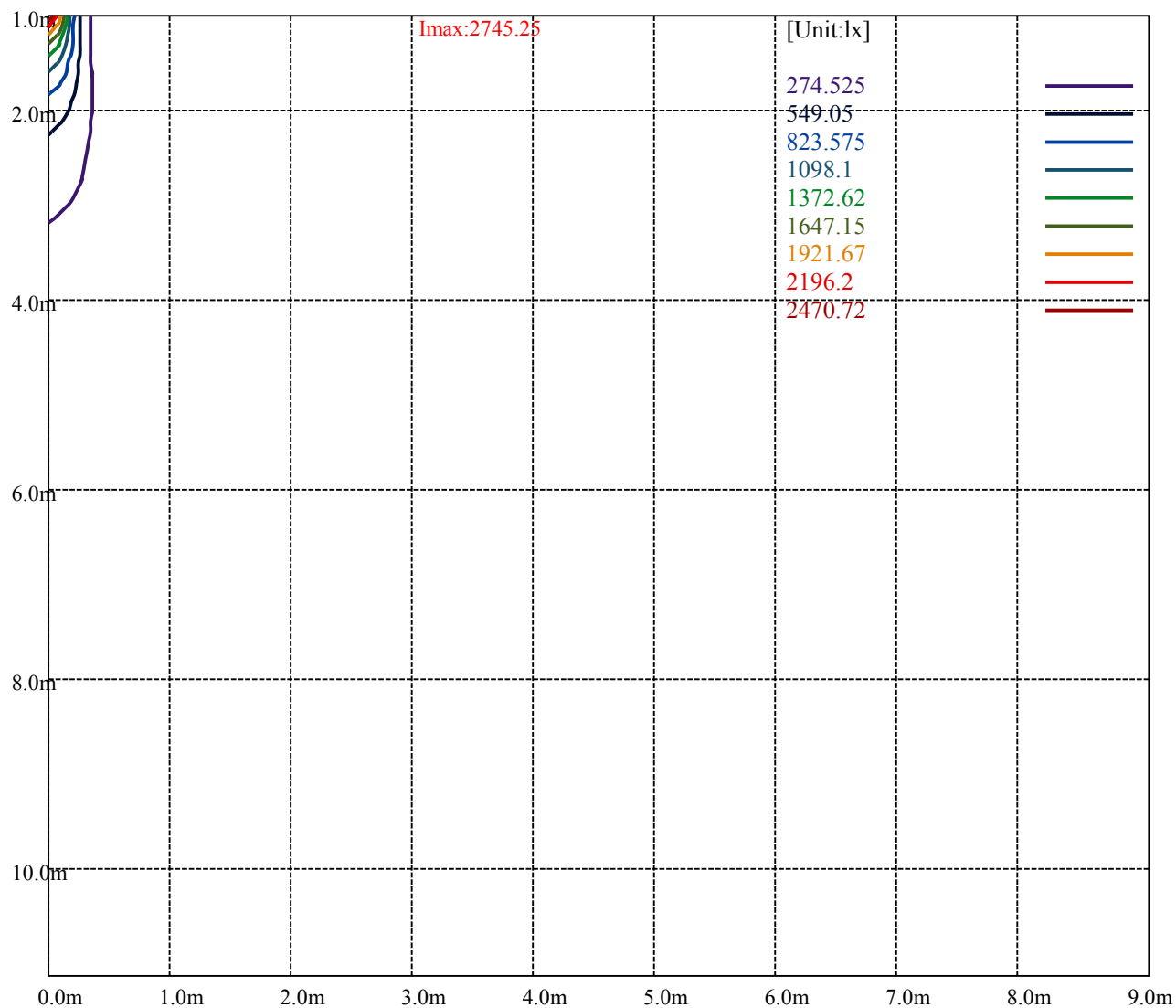
Road

Imax:2745.25

(10%Imax)	274.525	—
(20%Imax)	549.05	—
(30%Imax)	823.575	—
(40%Imax)	1098.1	—
(50%Imax)	1372.62	—
(60%Imax)	1647.15	—
(70%Imax)	1921.67	—
(80%Imax)	2196.2	—
(90%Imax)	2470.72	—



(10%E _{max}) 30.50266	—
(20%E _{max}) 61.00522	—
(30%E _{max}) 91.50789	—
(40%E _{max}) 122.01	—
(50%E _{max}) 152.5133	—
(60%E _{max}) 183.0156	—
(70%E _{max}) 213.5189	—
(80%E _{max}) 244.0211	—
(90%E _{max}) 274.5233	—



Luminance Table

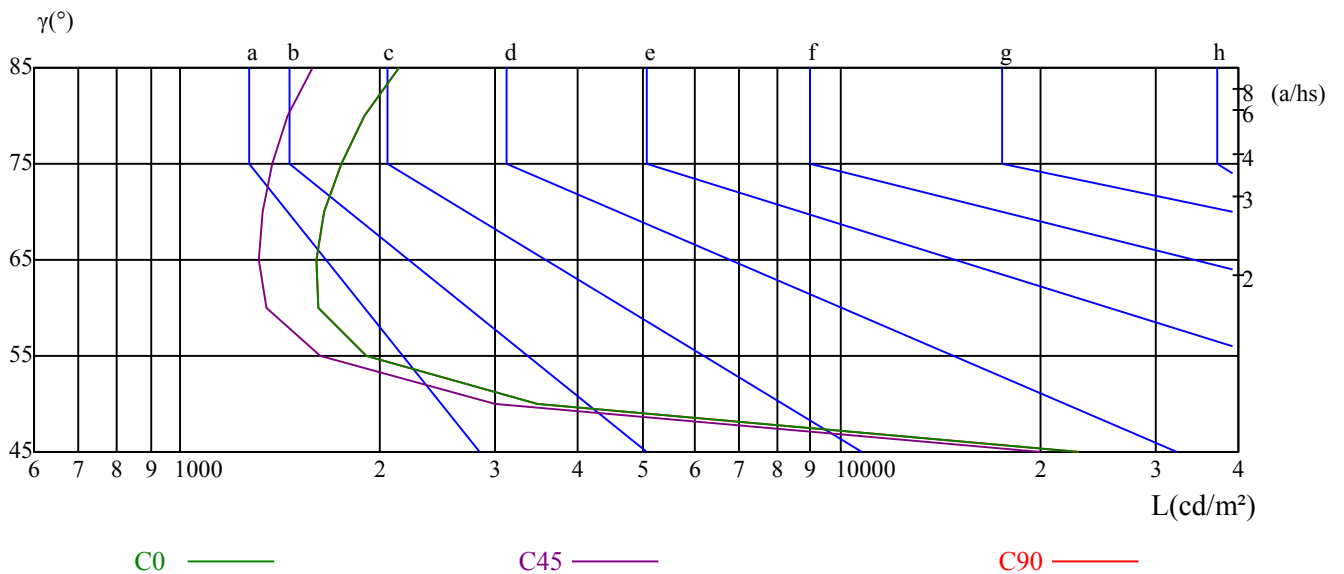
γ	45	50	55	60	65	70	75	80	85
C0	22878	3476	1917	1620	1605	1653	1752	1902	2144
C45	20033	2999	1629	1353	1317	1329	1376	1452	1582
C90	22878	3476	1917	1620	1605	1653	1752	1902	2144

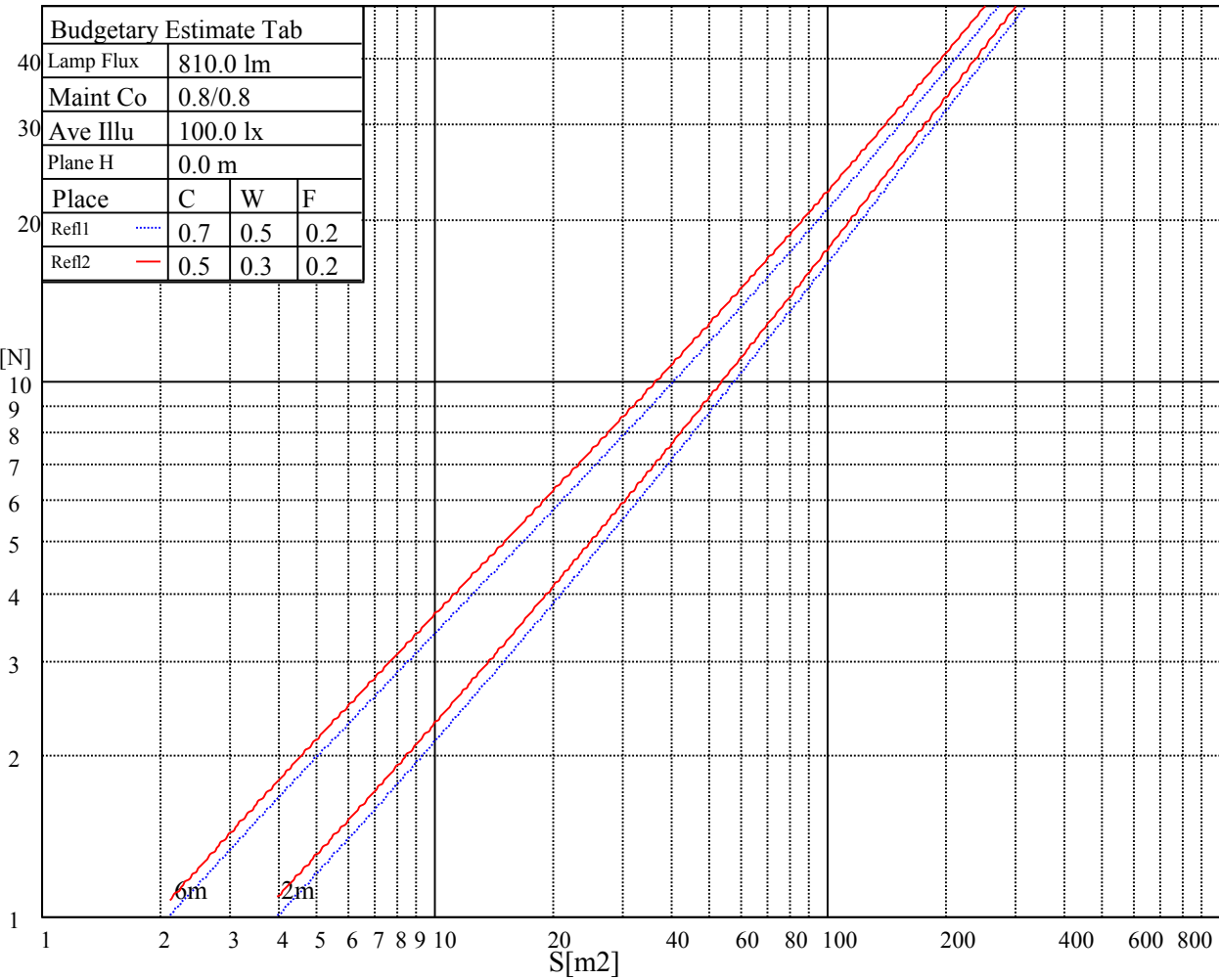
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3402	3402	3402	5165	5165	5165	14927	14927	14927

Glare Table

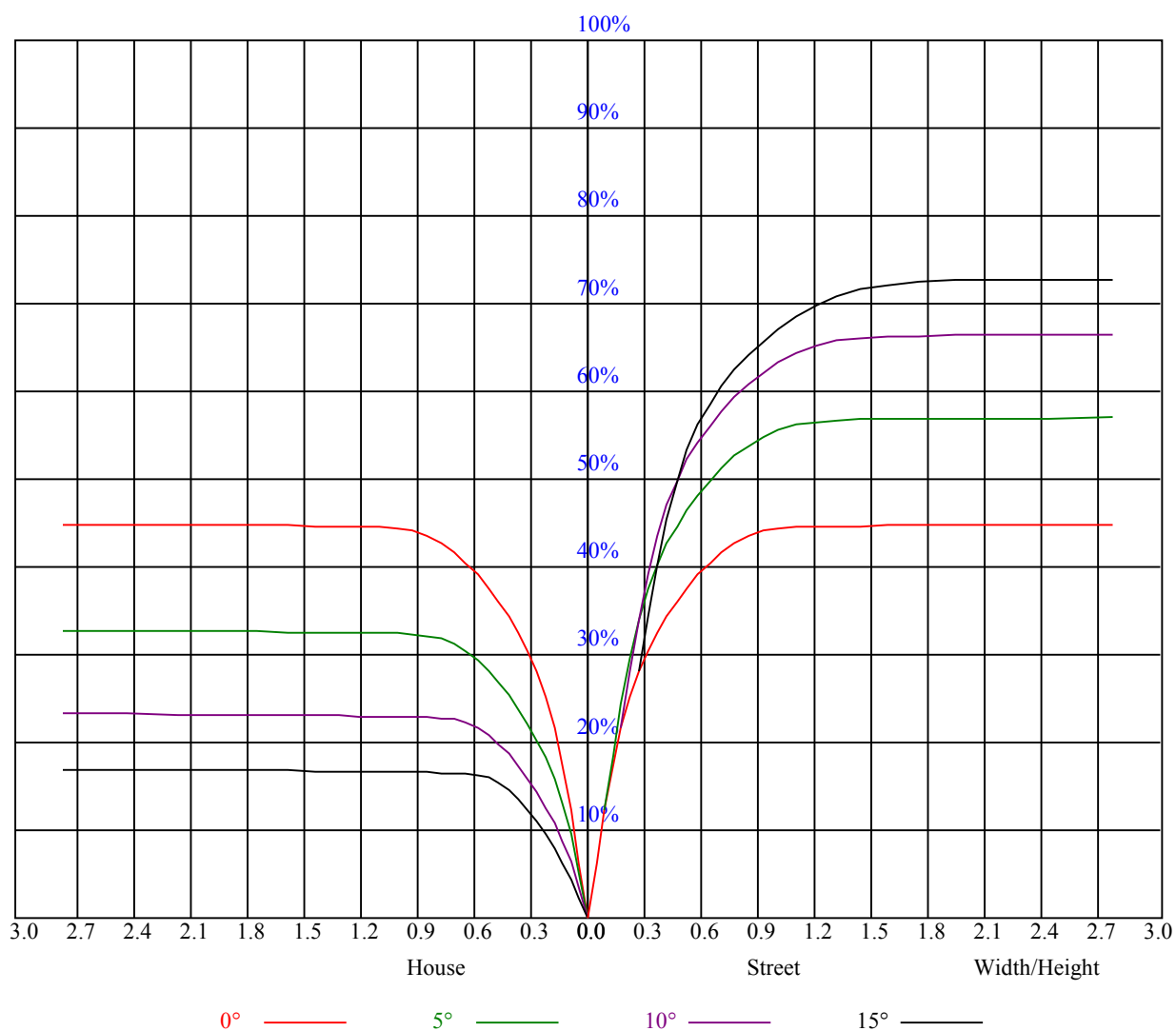
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.92
1	1.02	1.00	0.98	1.00	0.98	0.96	0.96	0.95	0.93	0.93	0.91	0.90	0.90	0.89	0.88	0.86
2	0.95	0.92	0.89	0.94	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.86	0.84	0.82	0.81
3	0.90	0.85	0.82	0.88	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.79	0.78	0.76
4	0.84	0.80	0.76	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.72
5	0.80	0.75	0.71	0.79	0.74	0.71	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.68
6	0.76	0.71	0.67	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.64
7	0.72	0.67	0.64	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.62	0.61
8	0.69	0.64	0.60	0.68	0.64	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.58
9	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.56
10	0.63	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.61	0.57	0.55	0.54



Nata 1687-M

Intensity data(cd)										Appendix Page: 14 Total:14	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	2748.42	2466.53	1592.23	743.26	356.21	288.50	259.70	242.47	220.83		
45.0	2761.08	2274.38	1389.07	572.04	323.73	278.03	247.31	230.52	200.24		
90.0	2706.02	2077.28	1062.15	470.79	309.20	273.69	248.14	225.68	174.09		
135.0	2765.48	2277.68	1408.89	594.06	325.93	281.89	251.11	230.91	206.41		
180.0	2748.42	2203.36	1053.61	577.10	314.32	273.24	253.42	237.13	198.09		
225.0	2761.08	2414.22	1493.13	667.01	349.17	285.74	259.04	241.53	216.70		
270.0	2706.02	2527.09	1685.83	808.78	371.08	292.90	262.84	244.07	224.30		
315.0	2765.48	2332.19	1096.39	639.37	336.34	283.49	258.65	239.39	212.57		
360.0	2748.42	2466.53	1592.23	743.26	356.21	288.50	259.70	242.47	220.83		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	67.22	8.37	4.51	3.30	3.08	2.92	2.86	2.81	2.75		
45.0	31.38	6.99	3.58	3.25	3.03	2.92	2.81	2.75	2.75		
90.0	17.78	6.22	3.52	3.14	2.97	2.86	2.81	2.75	2.75		
135.0	38.37	6.99	3.69	3.19	2.97	2.92	2.81	2.75	2.75		
180.0	20.92	6.39	3.41	3.14	2.97	2.86	2.81	2.75	2.75		
225.0	55.72	7.93	4.40	3.25	3.03	2.92	2.81	2.75	2.75		
270.0	118.37	9.97	5.56	3.47	3.19	2.97	2.86	2.81	2.75		
315.0	66.95	8.48	3.80	3.36	3.08	2.92	2.86	2.75	2.75		
360.0	67.22	8.37	4.51	3.30	3.08	2.92	2.86	2.81	2.75		
C/γ(°)	90.0										
0.0	2.70										
45.0	2.70										
90.0	2.75										
135.0	2.70										
180.0	2.70										
225.0	2.75										
270.0	2.70										
315.0	2.70										
360.0	2.70										