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NATA

LumCAT: 1535-E	
Luminaire: 92.70.051.00	
Report No: NATA0100	Voltage(V): 10.2400
Test No: GC2019010809	Current(A): 0.6000
LampCAT: BRIDGELUX V6	Power (W): 6.1440
Lamp flux(lm): 519.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 25	Width(mm): 25
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 435.42
Efficiency(%): 83.90%
Lumens(lm)/Power(W): 71.62
Central intensity(cd): 842.963
Maximum intensity(cd): 842.963
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.2
[C90/270]Total=35.2
Field angle(10%Imax): [C0/180]Total=77.6
[C90/270]Total=77.6
Maximum s/h(1/2): C0_180=0.57 C90_270=0.57
Maximum s/h(1/4): C0_180=0.61 C90_270=0.61
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.79%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.207%

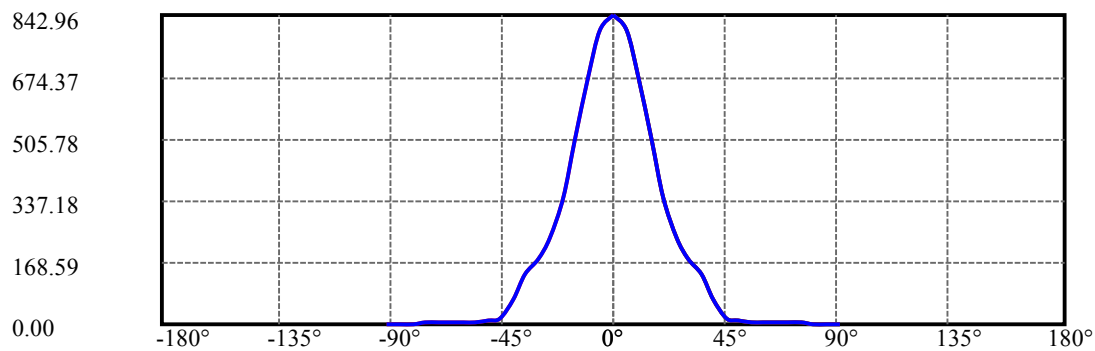
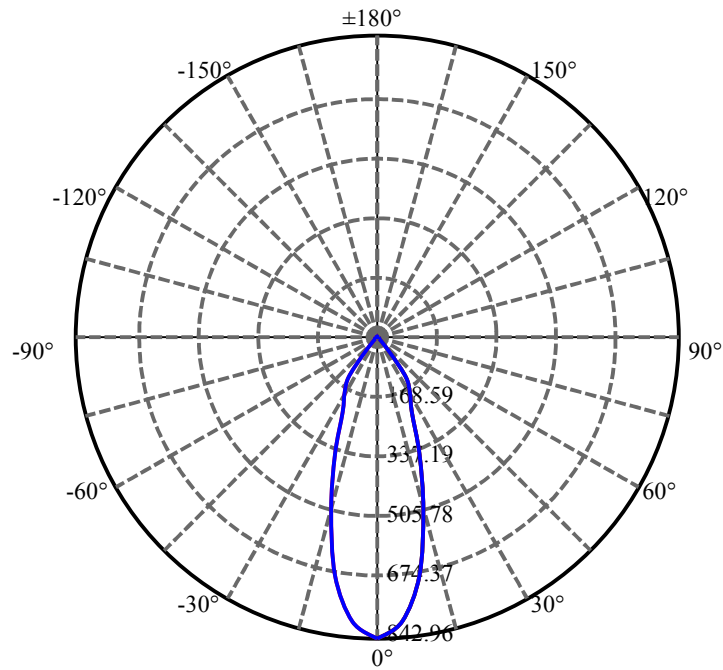
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	842.963	5.041	5.041	.971%	1.158%
5.0	798.884	38.165	43.206	7.354%	9.923%
10.0	675.626	64.308	107.515	12.391%	24.692%
15.0	502.706	71.318	178.833	13.741%	41.071%
20.0	347.632	65.172	244.005	12.557%	56.038%
25.0	233.149	54.010	298.014	10.406%	68.442%
30.0	177.638	48.685	346.699	9.381%	79.623%
35.0	136.455	42.901	389.601	8.266%	89.476%
40.0	67.493	23.780	413.381	4.582%	94.938%
45.0	15.750	6.105	419.485	1.176%	96.340%
50.0	9.113	3.826	423.312	.737%	97.218%
55.0	5.330	2.393	425.705	.461%	97.768%
60.0	4.331	2.056	427.761	.396%	98.240%
65.0	3.530	1.753	429.514	.338%	98.643%
70.0	2.988	1.539	431.054	.297%	98.996%
75.0	2.651	1.403	432.457	.270%	99.319%
80.0	2.363	1.275	433.732	.246%	99.612%
85.0	2.173	1.186	434.919	.229%	99.884%
90.0	1.842	0.505	435.424	.097%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	346.70	66.80%	79.62%
0-40	413.38	79.65%	94.94%
0-60	427.76	82.42%	98.24%
0-90	434.92	83.80%	99.88%
0-120	434.92	83.80%	99.88%
0-180	435.42	83.90%	100.00%
60-90	9.21	1.78%	2.12%
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%
0-30.19	348.34	67.12%	80.00%

ZONAL LUMEN SUMMARY

0-10	107.51
10-20	136.49
20-30	102.69
30-40	66.68
40-50	9.93
50-60	4.45
60-70	3.29
70-80	2.68
80-90	1.19
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

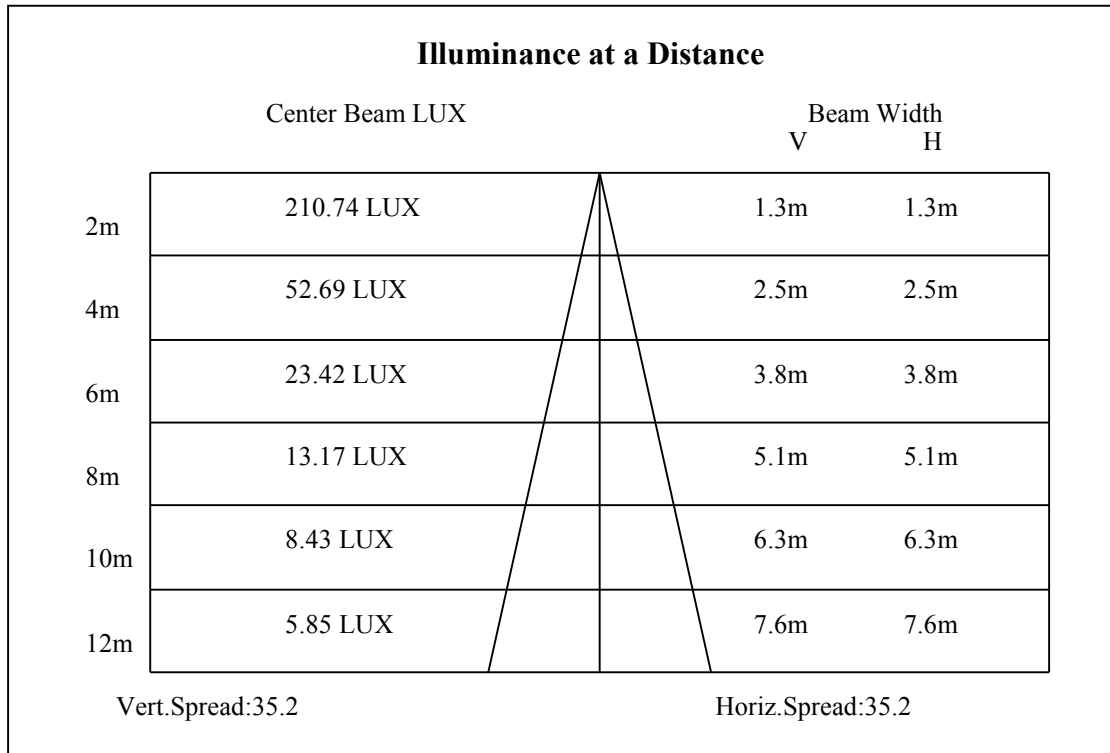
C0(Max): —————C0/C180: —————C90/C270: —————

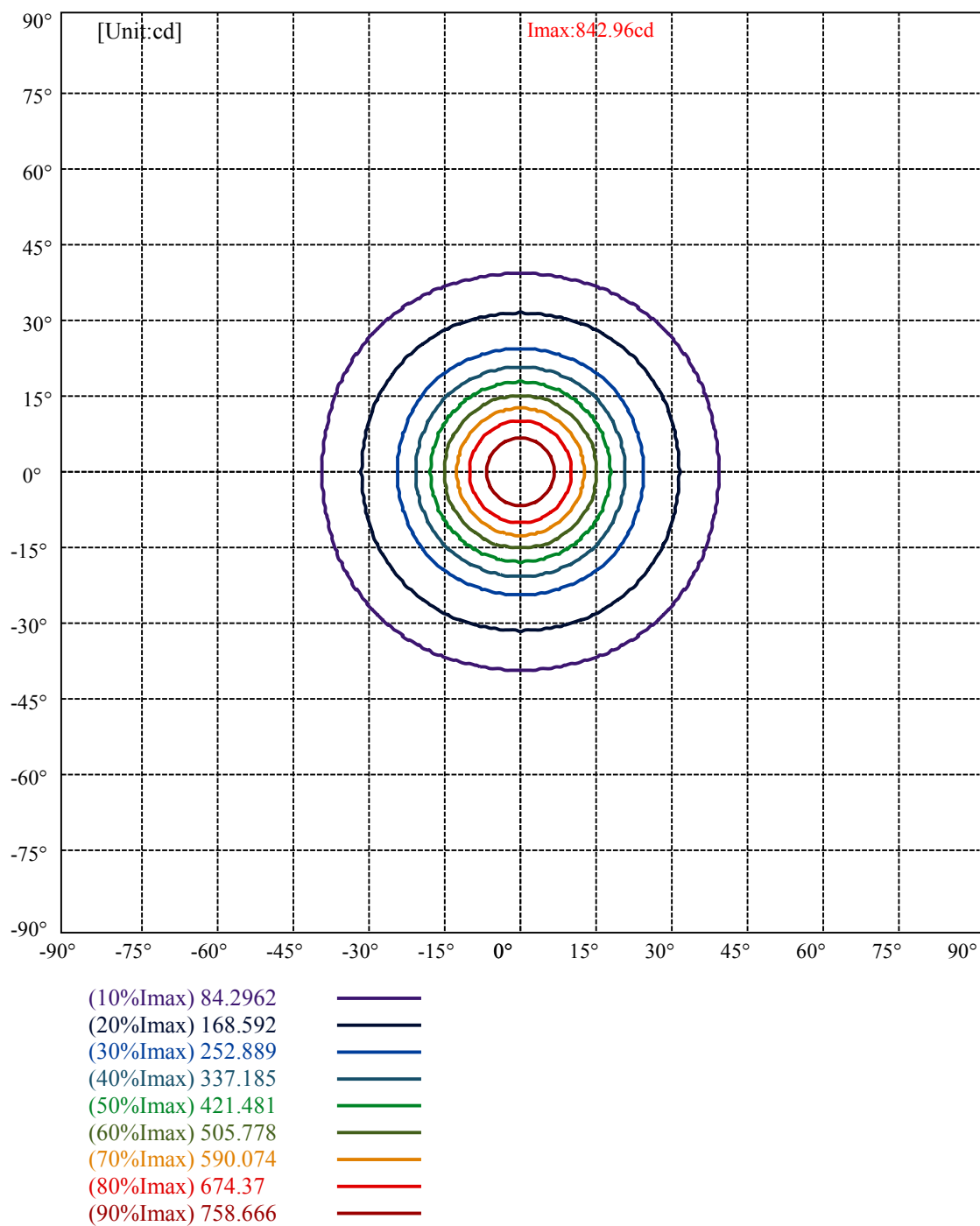
Field angle(10%Imax):C0/180Left:38.8 Right:38.8

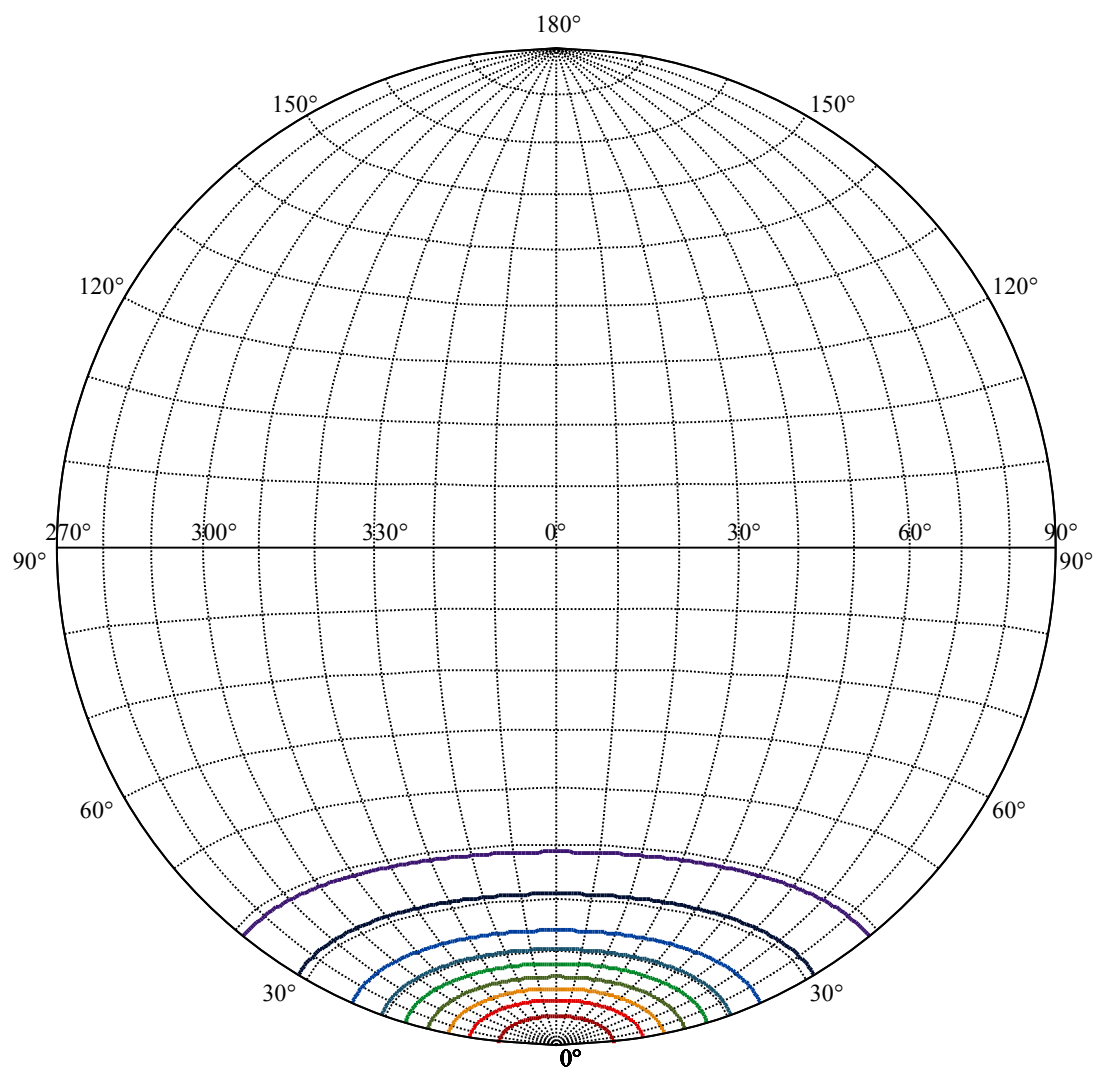
:C90/270Left:38.8 Right:38.8

Beam Angle(50%Imax):C0/180Left:17.6 Right:17.6

:C90/270Left:17.6 Right:17.6







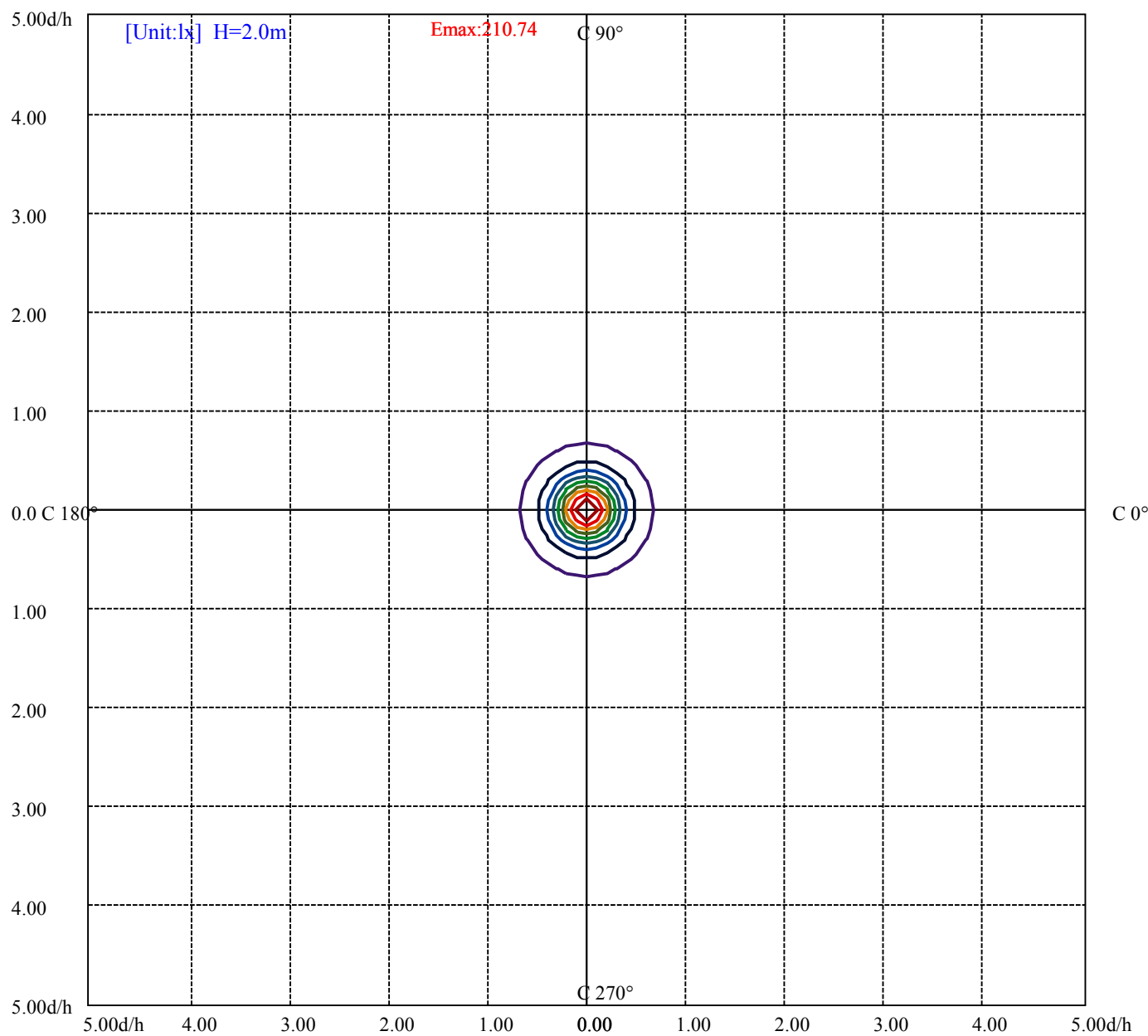
House

[Unit:cd]

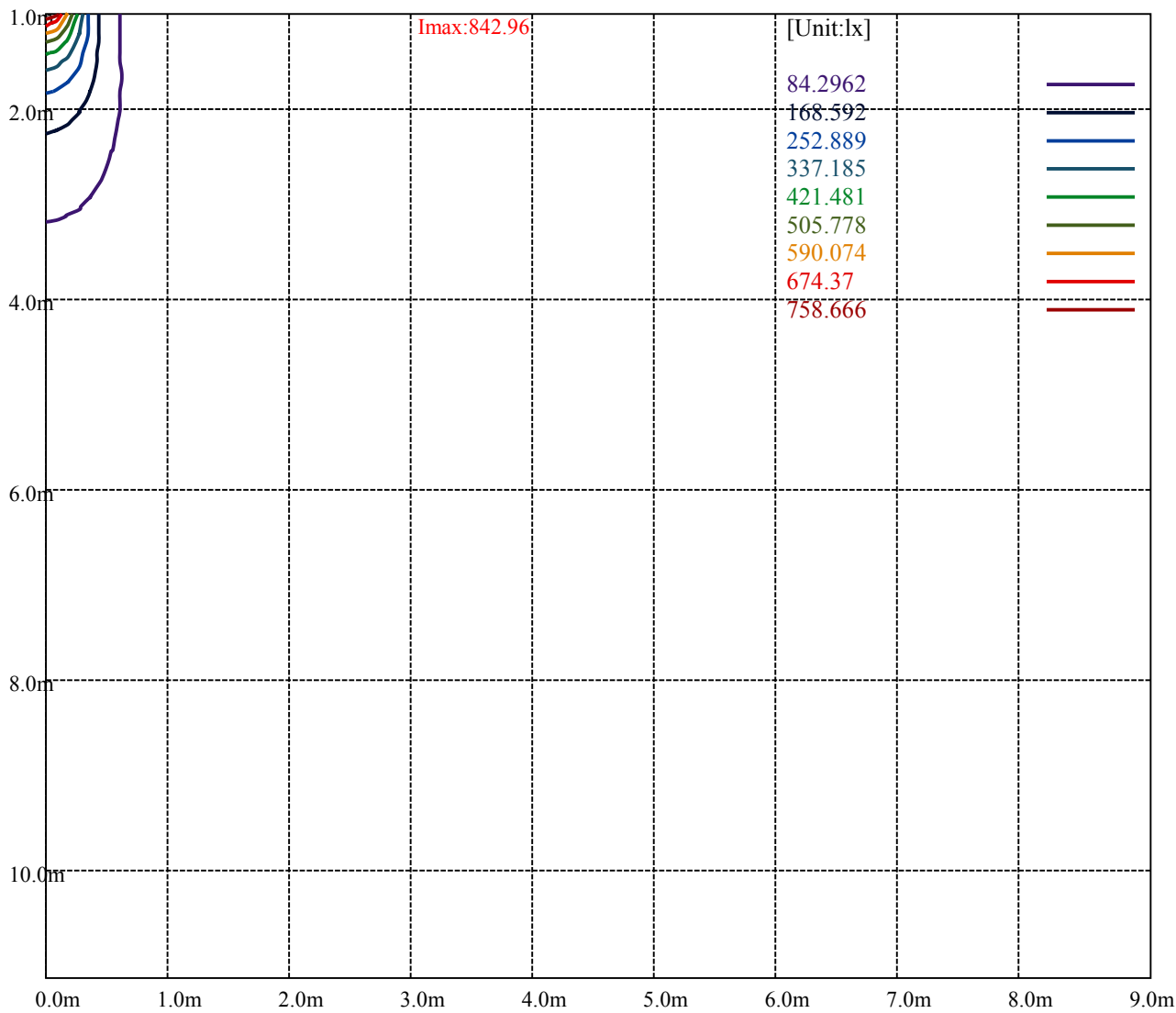
Road

Imax:842.96
(10%Imax) 84.2962
(20%Imax) 168.592
(30%Imax) 252.889
(40%Imax) 337.185
(50%Imax) 421.481
(60%Imax) 505.778
(70%Imax) 590.074
(80%Imax) 674.37
(90%Imax) 758.666





(10%Emax) 21.07402	—
(20%Emax) 42.148	—
(30%Emax) 63.222	—
(40%Emax) 84.296	—
(50%Emax) 105.3702	—
(60%Emax) 126.4443	—
(70%Emax) 147.5182	—
(80%Emax) 168.5923	—
(90%Emax) 189.6662	—



Luminance Table

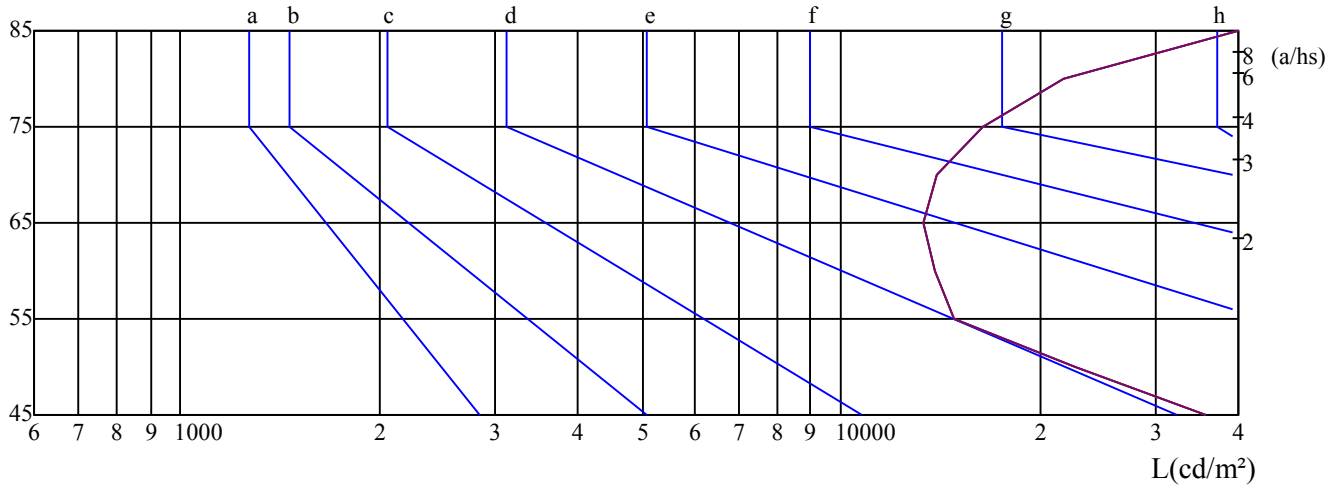
γ	45	50	55	60	65	70	75	80	85
C0	35638	22682	14867	13860	13363	13979	16387	21768	39885
C45	35638	22682	14867	13860	13363	13979	16387	21768	39885
C90	35638	22682	14867	13860	13363	13979	16387	21768	39885

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
13363	13363	13363	16387	16387	16387	39885	39885	39885

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

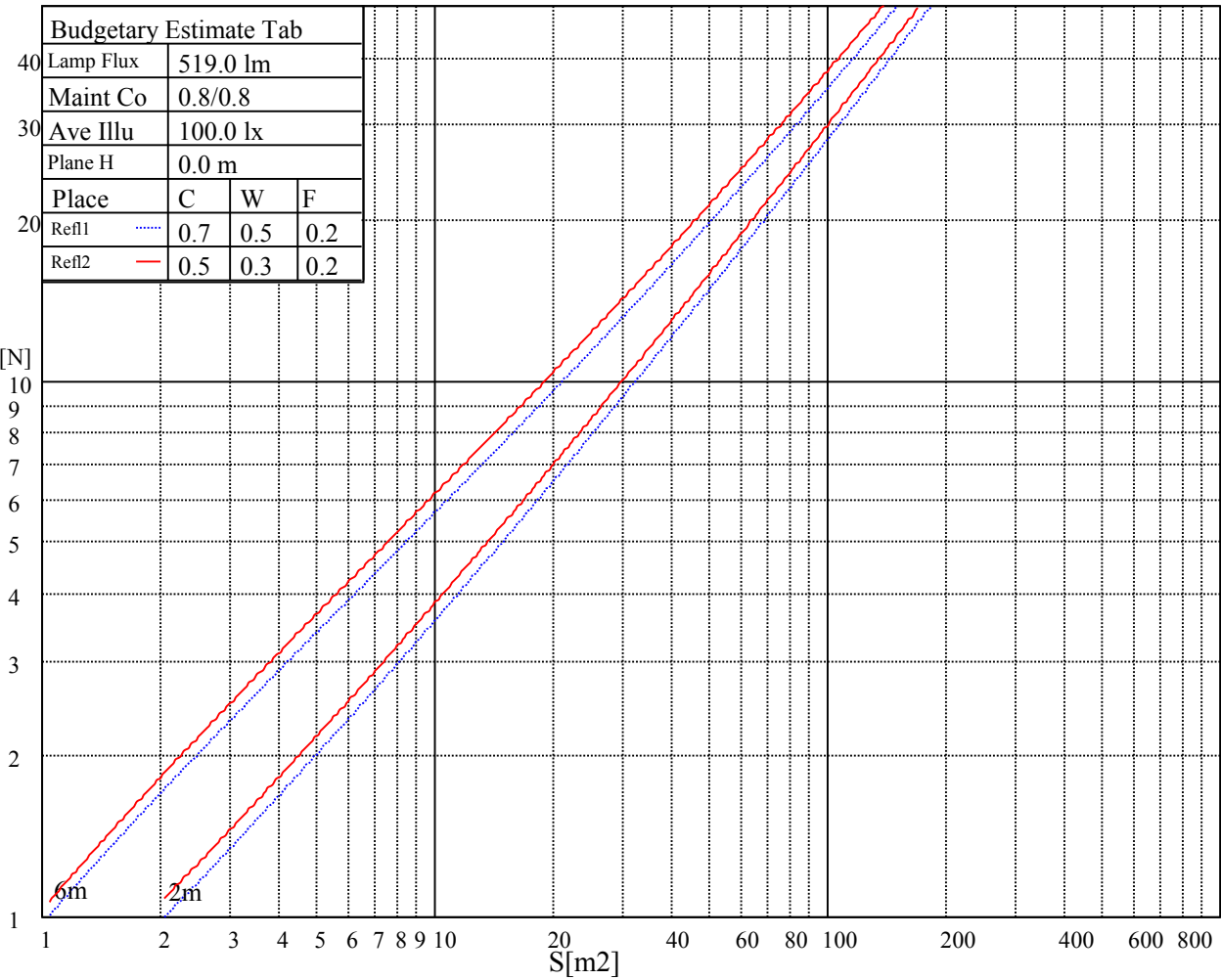
 $\gamma(^{\circ})$ 

C0 ———

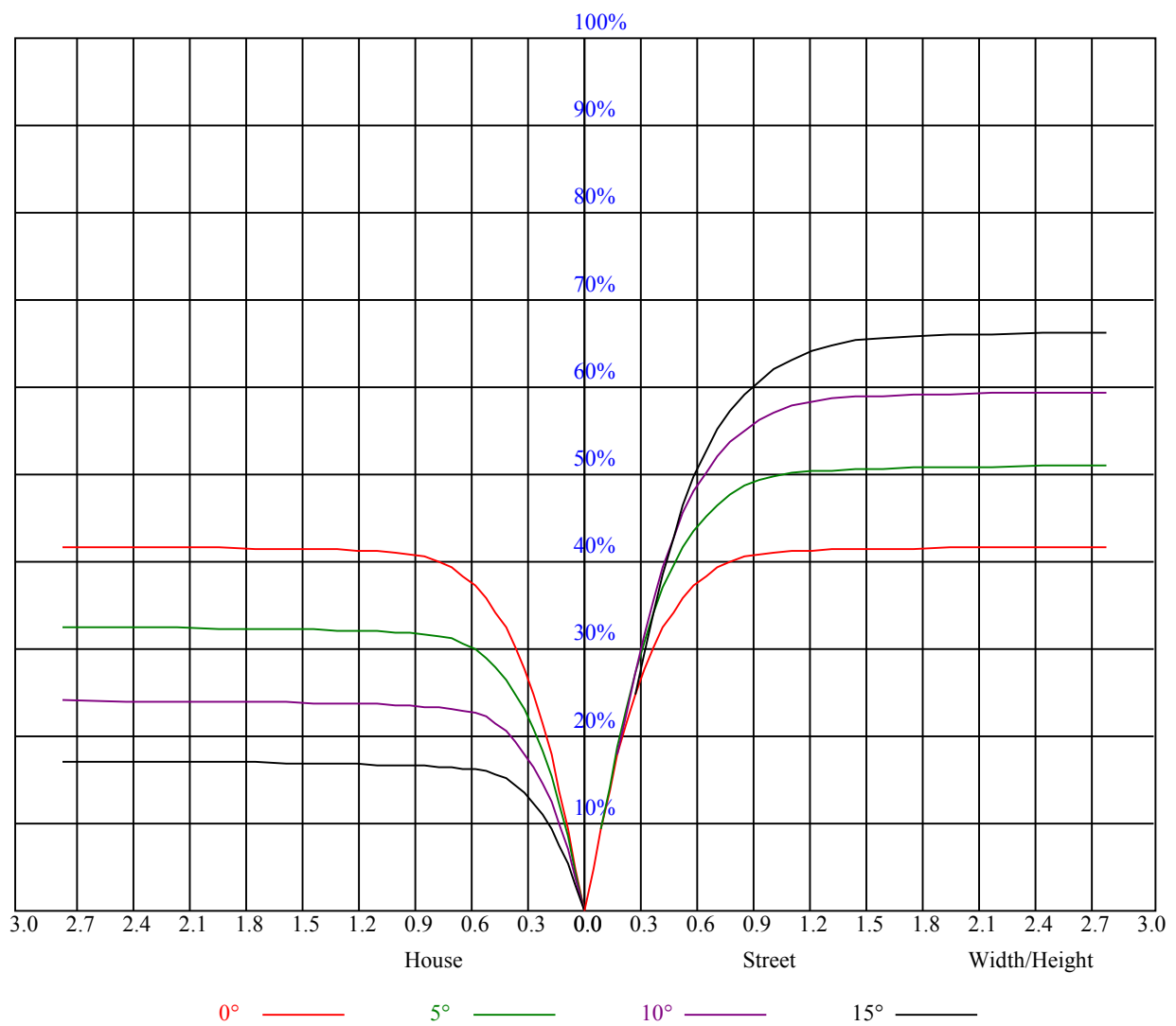
C45 ———

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	15.96	16.92	16.32	17.23	17.55	15.61	16.57	15.97	16.88	17.20
	3H	17.81	18.66	18.20	19.00	19.37	17.55	18.41	17.94	18.74	19.11
	4H	18.86	19.64	19.26	20.00	20.39	18.62	19.41	19.03	19.76	20.15
	6H	20.07	20.79	20.49	21.17	21.56	19.86	20.58	20.28	20.95	21.35
	8H	20.76	21.44	21.20	21.83	22.24	20.58	21.26	21.02	21.65	22.06
	12H	21.95	22.60	22.39	22.98	23.42	21.86	22.50	22.29	22.89	23.32
4H	2H	16.40	17.19	16.81	17.54	17.93	16.12	16.91	16.53	17.27	17.66
	3H	18.56	19.21	18.98	19.62	20.03	18.36	19.01	18.78	19.42	19.83
	4H	19.81	20.39	20.25	20.81	21.26	19.63	20.21	20.07	20.63	21.08
	6H	21.14	21.63	21.61	22.09	22.56	21.00	21.49	21.47	21.94	22.42
	8H	21.98	22.44	22.46	22.89	23.37	21.86	22.32	22.34	22.77	23.25
	12H	23.20	23.60	23.69	24.09	24.57	23.15	23.55	23.64	24.04	24.51
8H	4H	20.26	20.72	20.74	21.17	21.65	20.11	20.57	20.59	21.02	21.50
	6H	21.89	22.26	22.40	22.76	23.25	21.78	22.15	22.29	22.65	23.13
	8H	22.94	23.26	23.47	23.78	24.28	22.85	23.17	23.38	23.69	24.19
	12H	24.42	24.70	24.95	25.20	25.78	24.40	24.68	24.92	25.18	25.76
12H	4H	20.37	20.77	20.86	21.25	21.73	20.23	20.62	20.72	21.11	21.59
	6H	22.37	22.44	22.65	22.91	23.46	22.26	22.34	22.55	22.81	23.36
	8H	23.29	23.57	23.81	24.06	24.65	23.21	23.49	23.73	23.99	24.57
Variation with the observer position at spacings:											
S = 1.0H		4.0/-5.9					4.0/-5.9				
S = 1.5H		6.2/-4.7					6.2/-4.7				
S = 2.0H		7.7/-3.9					7.7/-3.9				
Standard tables:		BK2					BK2				
Uncorrected UGR		5.2					5.2				



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 RHOFC=20 CU															
0	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.93	0.91	0.89	0.91	0.89	0.87	0.88	0.86	0.85	0.85	0.83	0.82	0.82	0.81	0.80	0.78
2	0.87	0.84	0.81	0.86	0.83	0.80	0.83	0.81	0.79	0.81	0.79	0.77	0.78	0.77	0.75	0.74
3	0.82	0.78	0.75	0.81	0.78	0.75	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
4	0.78	0.74	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.66
5	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.63
6	0.70	0.66	0.62	0.70	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.60
7	0.67	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.57
8	0.64	0.60	0.57	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.55
9	0.61	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.60	0.56	0.54	0.59	0.56	0.53	0.52
10	0.59	0.55	0.52	0.59	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.57	0.54	0.51	0.50



NATA 1535-E

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	841.67	815.63	709.31	552.26	390.66	263.70	192.77	153.45	82.46		
45.0	841.84	804.21	686.81	508.95	360.56	242.66	184.22	147.04	74.25		
90.0	843.75	780.53	639.90	466.03	303.24	200.36	158.74	111.60	45.84		
135.0	844.59	790.31	661.73	489.04	333.96	216.23	167.18	131.68	66.15		
180.0	841.67	783.79	640.01	461.59	315.11	220.28	179.89	130.50	58.84		
225.0	841.84	795.43	665.78	486.51	342.23	227.76	175.78	136.86	65.53		
270.0	843.75	812.53	712.58	541.80	377.83	249.30	180.79	139.56	73.29		
315.0	844.59	808.65	688.89	515.48	357.47	244.91	181.74	140.96	73.58		
360.0	841.67	815.63	709.31	552.26	390.66	263.70	192.77	153.45	82.46		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	20.08	8.66	4.89	4.22	3.60	3.09	2.76	2.48	2.19		
45.0	15.92	10.35	5.06	4.16	3.49	2.93	2.64	2.25	2.14		
90.0	14.40	9.56	5.34	4.28	3.43	2.98	2.64	2.31	2.03		
135.0	15.19	9.51	5.51	4.28	3.43	2.87	2.53	2.25	2.14		
180.0	12.60	8.16	5.18	4.28	3.43	2.87	2.53	2.25	2.19		
225.0	13.28	8.27	5.40	4.33	3.43	2.93	2.53	2.31	2.14		
270.0	19.58	9.73	5.91	4.73	3.77	3.15	2.81	2.53	2.25		
315.0	14.96	8.66	5.34	4.39	3.66	3.09	2.76	2.53	2.31		
360.0	20.08	8.66	4.89	4.22	3.60	3.09	2.76	2.48	2.19		
C/γ(°)	90.0										
0.0	1.97										
45.0	1.86										
90.0	1.74										
135.0	1.80										
180.0	1.91										
225.0	1.86										
270.0	1.74										
315.0	1.86										
360.0	1.97										