
NATA

LumCAT: 2-1569-M	
Luminaire: BJB47.319.2011	
Report No: NT2017060705	Voltage(V): 219.3000
Test No: GC2017060705	Current(A): 0.1030
LampCAT: LUMILEDS 1204	Power (W): 20.6000
Lamp flux(lm): 2095.0	PF: 0.9100
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 45

Photometric Results

Lumens(lm): 1895.63
Efficiency(%): 90.48%
Lumens(lm)/Power(W): 92.02
Central intensity(cd): 2019.882
Maximum intensity(cd): 2033.646
Angle of maximum intensity: C=0.0 γ =5.0
Beam Angle(50%Imax): [C0/180]Total=62.3
[C90/270]Total=62.3
Field angle(10%Imax): [C0/180]Total=79.1
[C90/270]Total=79.1
Maximum s/h(1/2): C0_180=1.01 C90_270=1.01
Maximum s/h(1/4): C0_180=0.92 C90_270=0.92
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.97%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.230%

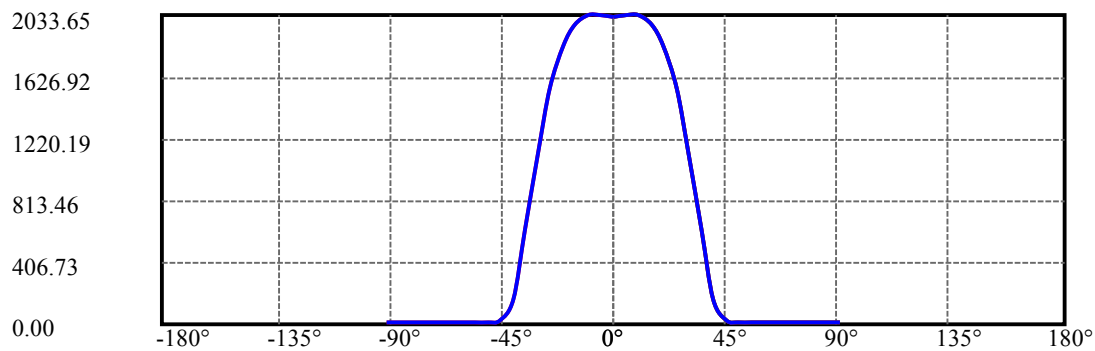
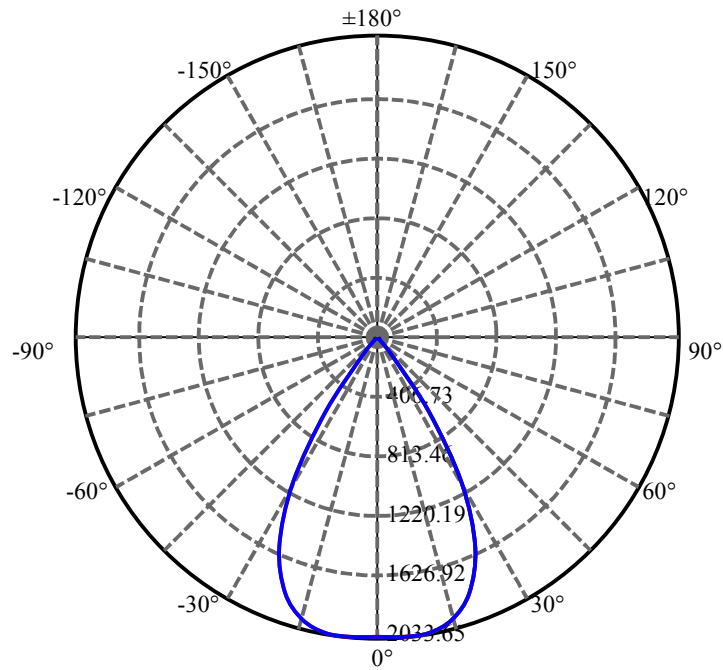
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2019.882	12.079	12.079	.577%	.637%
5.0	2033.646	97.154	109.233	4.637%	5.762%
10.0	2031.512	193.366	302.599	9.230%	15.963%
15.0	1972.602	279.850	582.449	13.358%	30.726%
20.0	1833.516	343.737	926.185	16.407%	48.859%
25.0	1555.412	360.316	1286.501	17.199%	67.867%
30.0	1139.186	312.215	1598.716	14.903%	84.337%
35.0	613.610	192.918	1791.634	9.209%	94.514%
40.0	165.155	58.190	1849.825	2.778%	97.584%
45.0	21.713	8.416	1858.24	.402%	98.028%
50.0	12.305	5.167	1863.407	.247%	98.300%
55.0	9.828	4.413	1867.82	.211%	98.533%
60.0	9.146	4.342	1872.162	.207%	98.762%
65.0	8.665	4.304	1876.466	.205%	98.989%
70.0	8.279	4.264	1880.73	.204%	99.214%
75.0	7.997	4.234	1884.965	.202%	99.437%
80.0	8.045	4.343	1889.307	.207%	99.667%
85.0	7.729	4.220	1893.528	.201%	99.889%
90.0	7.667	2.101	1895.629	.100%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1598.72	76.31%	84.34%
0-40	1849.82	88.30%	97.58%
0-60	1872.16	89.36%	98.76%
0-90	1893.53	90.38%	99.89%
0-120	1893.53	90.38%	99.89%
0-180	1895.63	90.48%	100.00%
60-90	25.71	1.23%	1.36%
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%
0-28.68	1516.50	72.39%	80.00%

ZONAL LUMEN SUMMARY

0-10	302.60
10-20	623.59
20-30	672.53
30-40	251.11
40-50	13.58
50-60	8.75
60-70	8.57
70-80	8.58
80-90	4.22
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

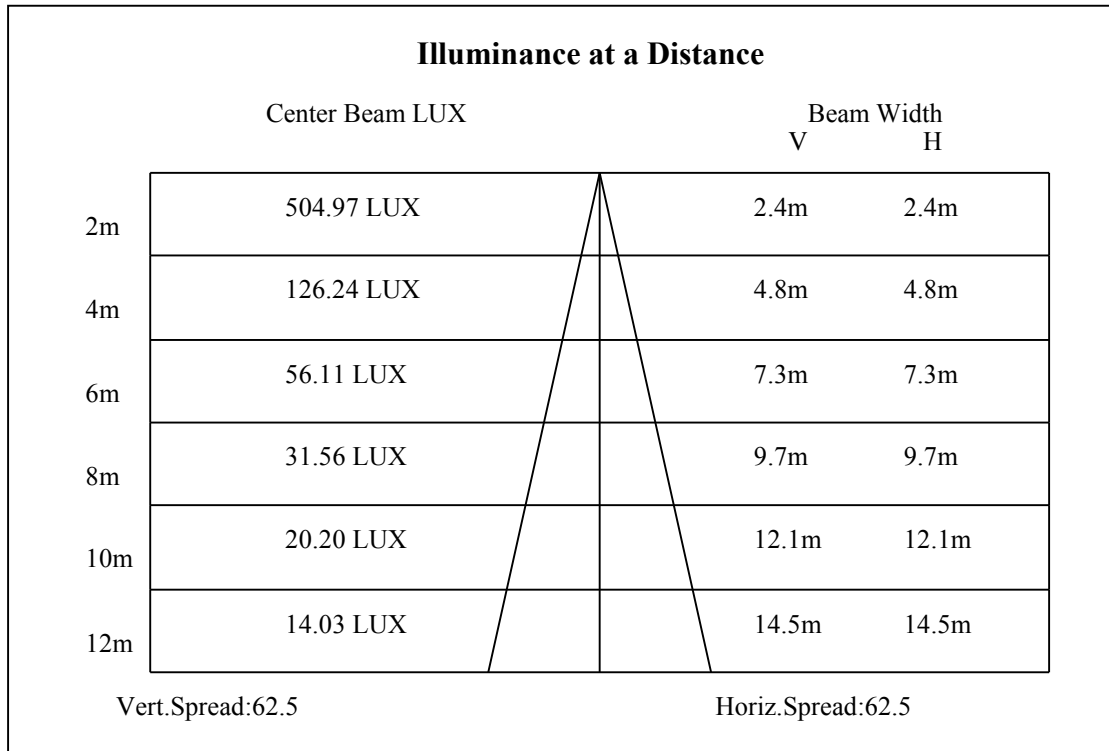
C0(Max): —————C0/C180: —————C90/C270: —————

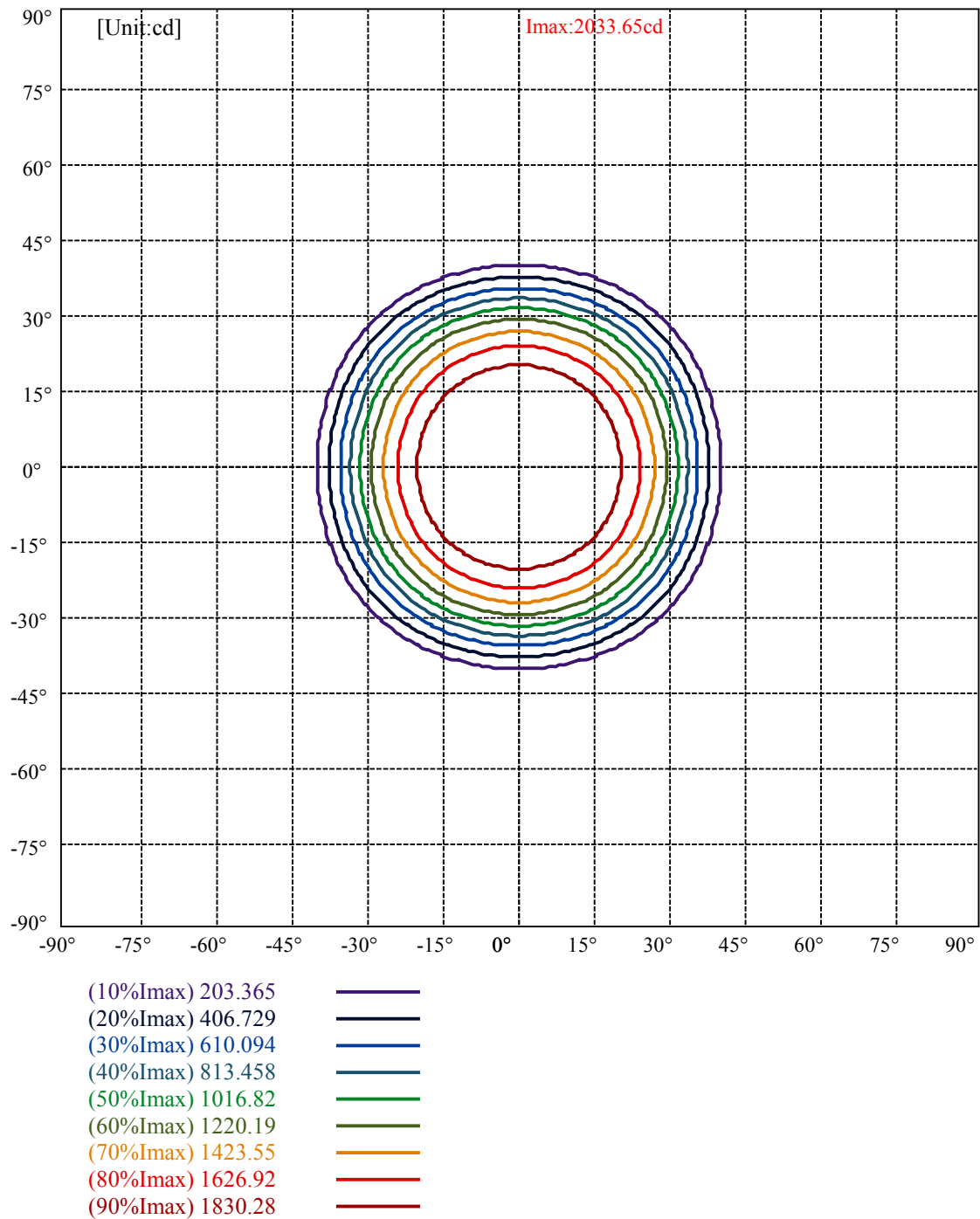
Field angle(10%Imax):C0/180Left:44.6 Right:34.6

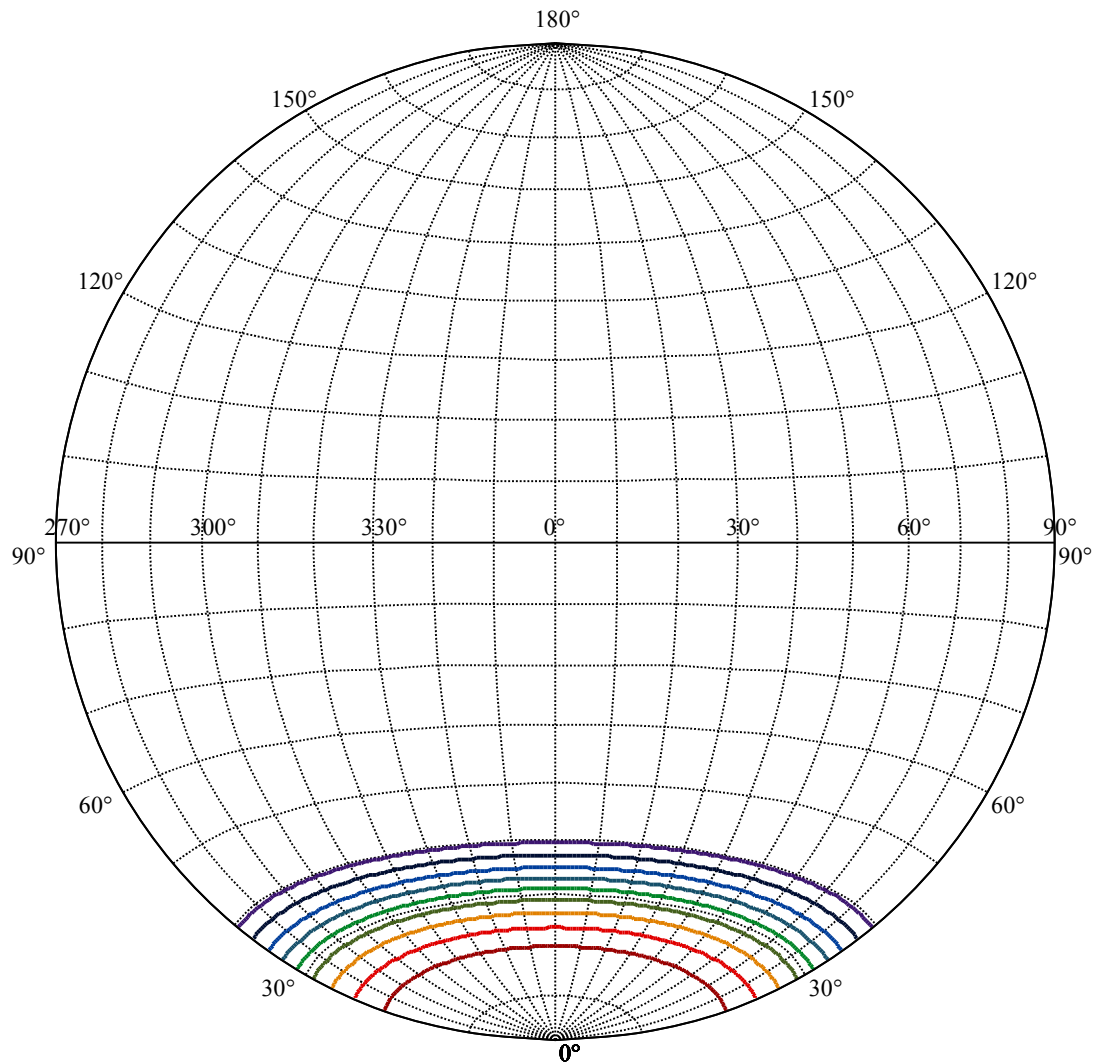
:C90/270Left:44.6 Right:34.6

Beam Angle(50%Imax):C0/180Left:36.2 Right:26.2

:C90/270Left:36.2 Right:26.2







House

[Unit:cd]

Road

Imax:2033.65

(10%Imax) 203.365

(20%Imax) 406.729

(30%Imax) 610.094

(40%Imax) 813.458

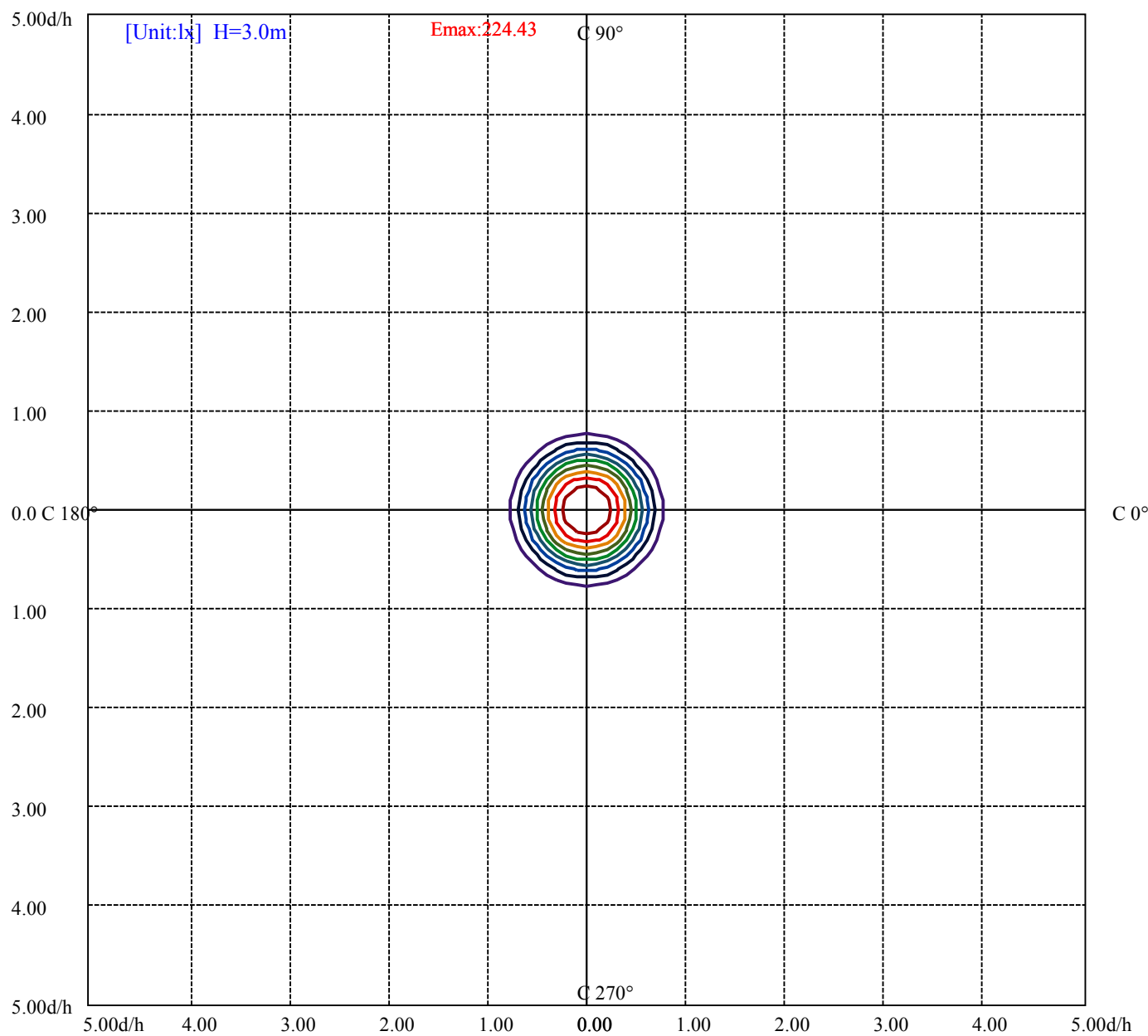
(50%Imax) 1016.82

(60%Imax) 1220.19

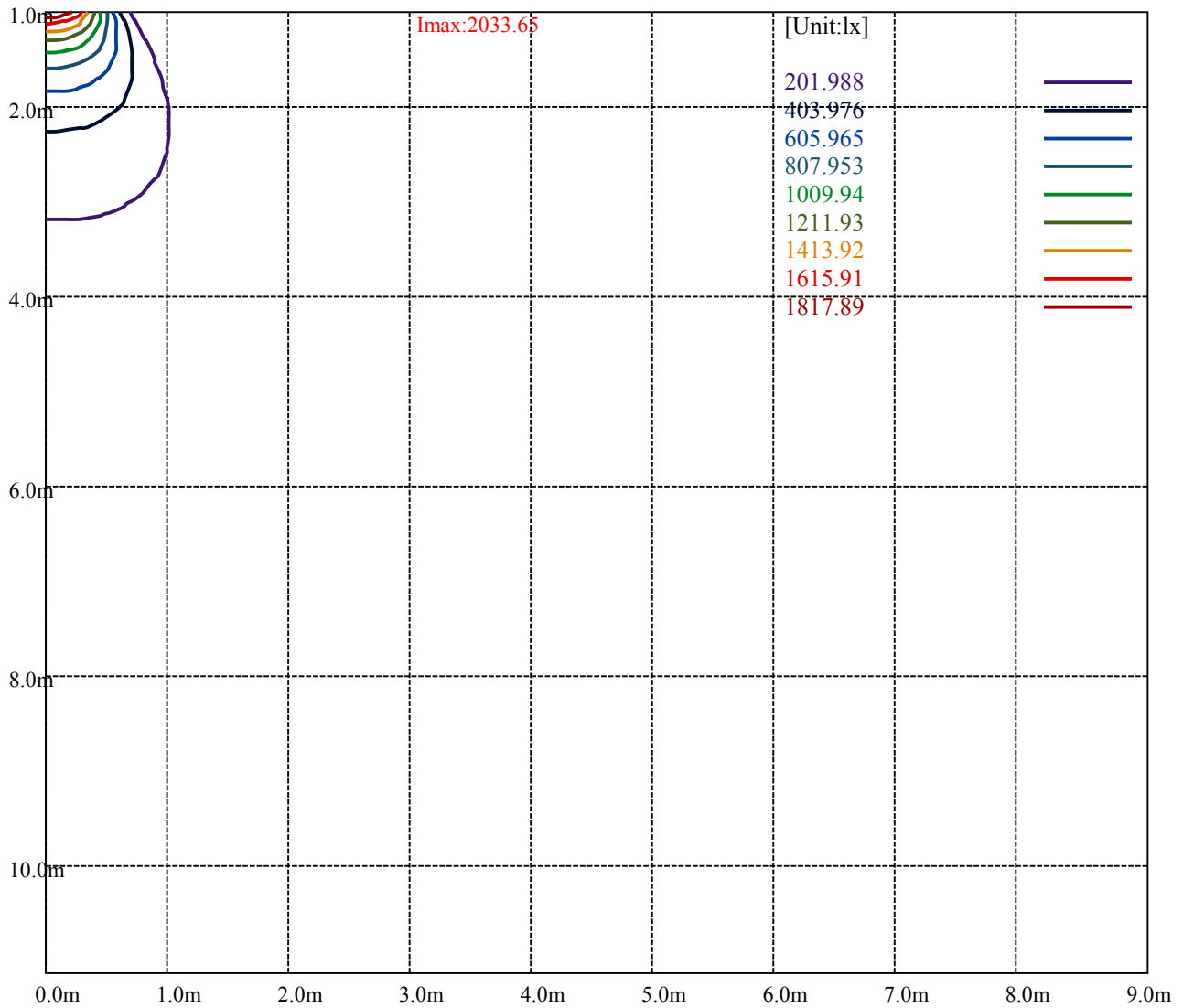
(70%Imax) 1423.55

(80%Imax) 1626.92

(90%Imax) 1830.28



(10%E _{max}) 22.44311	—
(20%E _{max}) 44.88622	—
(30%E _{max}) 67.32944	—
(40%E _{max}) 89.77255	—
(50%E _{max}) 112.2156	—
(60%E _{max}) 134.6589	—
(70%E _{max}) 157.1022	—
(80%E _{max}) 179.5456	—
(90%E _{max}) 201.9878	—



Luminance Table

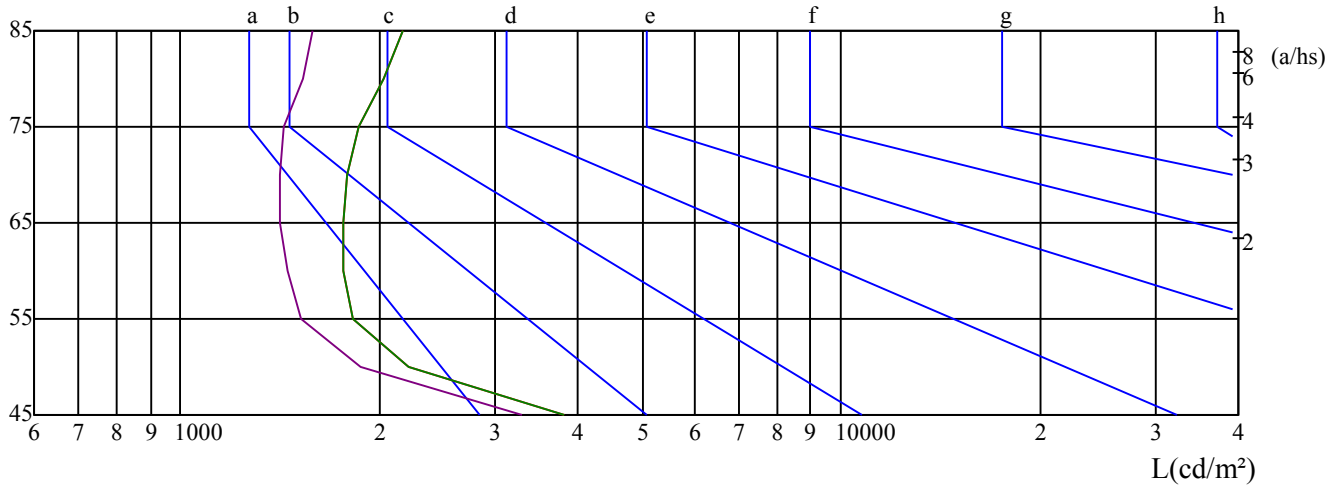
γ	45	50	55	60	65	70	75	80	85
C0	3814	2212	1823	1766	1759	1786	1855	2035	2168
C45	3282	1875	1521	1450	1418	1412	1435	1536	1589
C90	3814	2212	1823	1766	1759	1786	1855	2035	2168

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4184	4184	4184	6306	6306	6306	18097	18097	18097

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

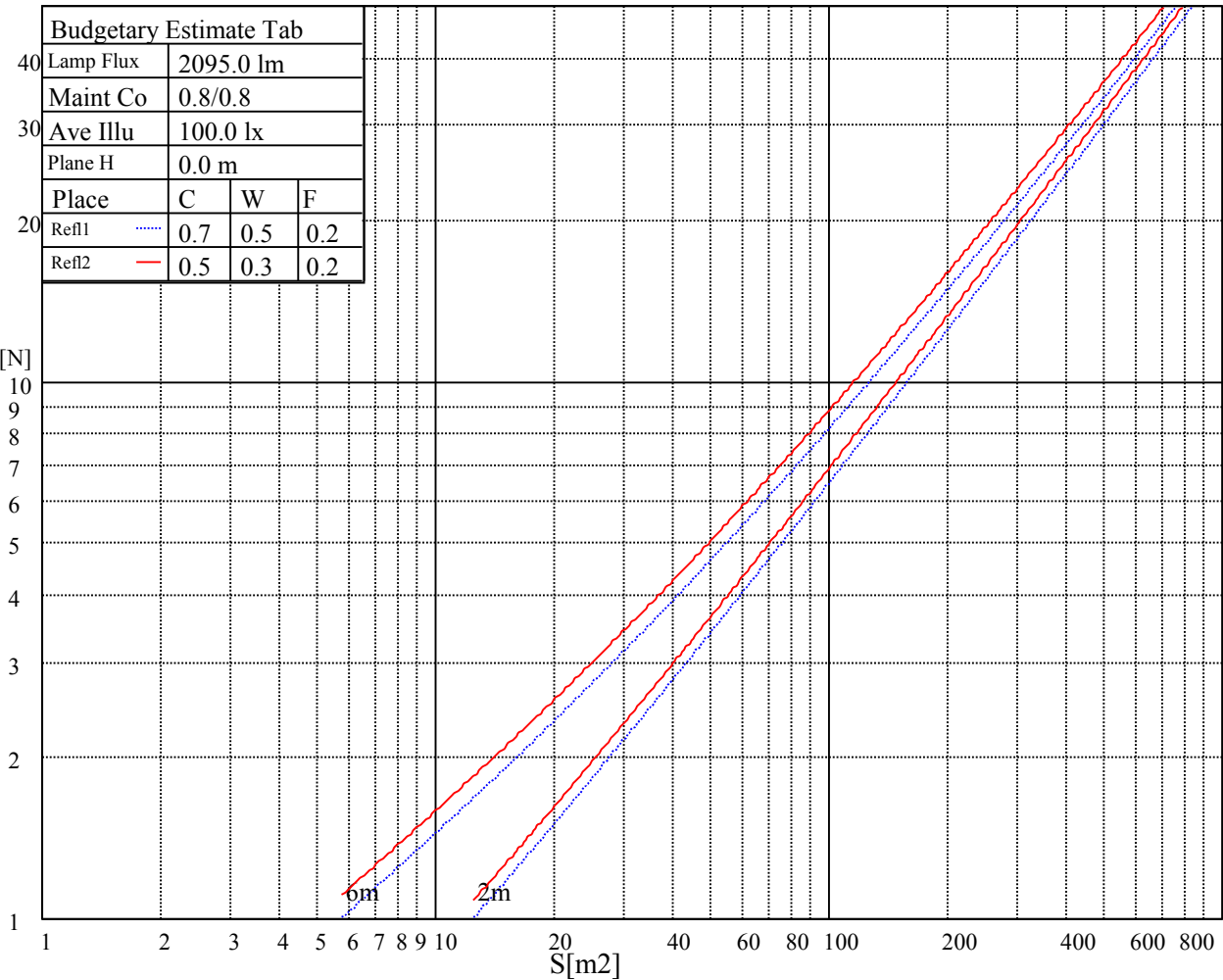
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

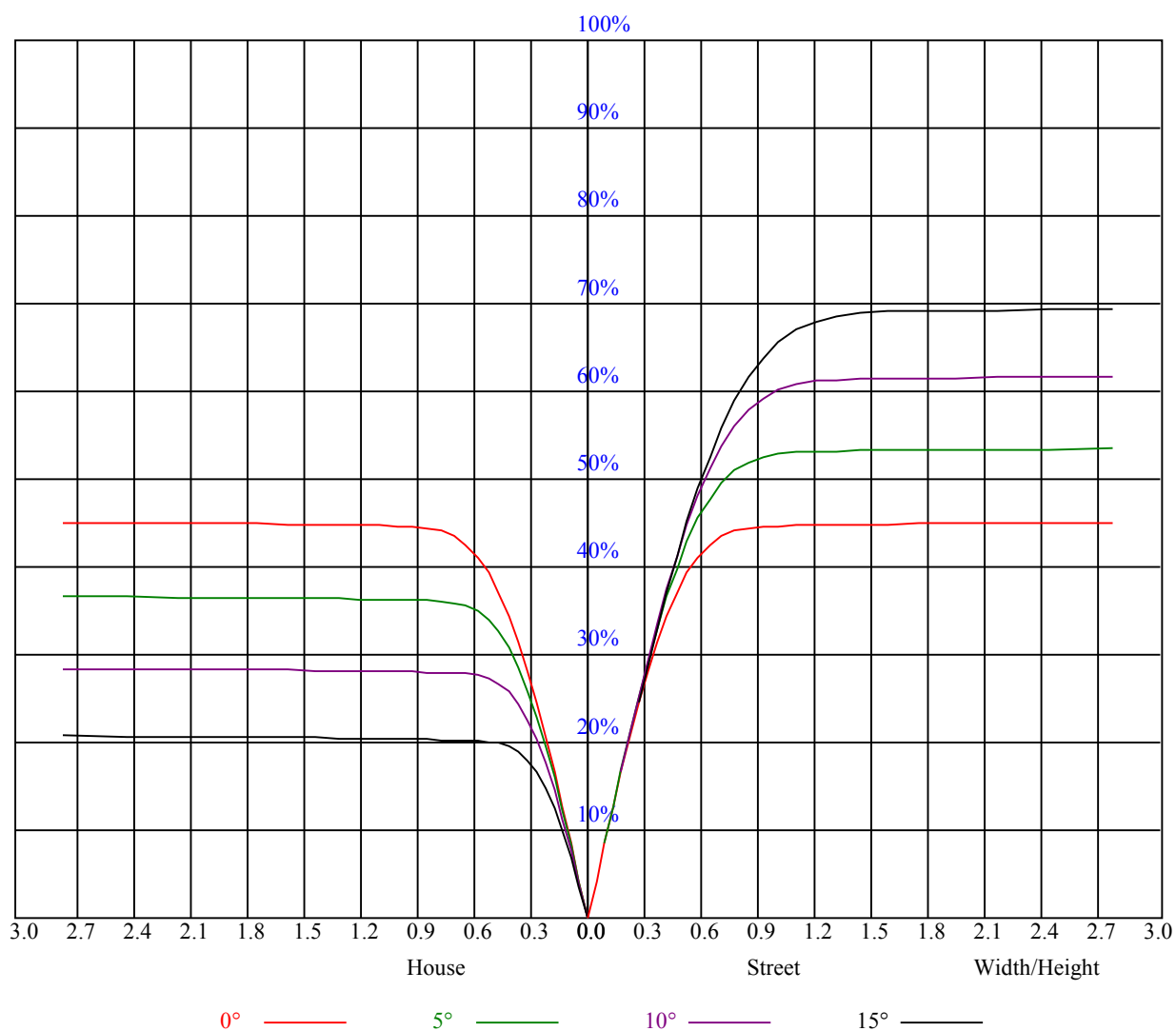
C0 ———

C45 ———

C90 ———



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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.00	0.98	0.96	0.99	0.96	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85
2	0.94	0.91	0.88	0.93	0.89	0.87	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.80
3	0.89	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.75
4	0.84	0.79	0.75	0.83	0.78	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.72	0.71
5	0.79	0.74	0.71	0.78	0.74	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.68	0.67
6	0.75	0.70	0.66	0.74	0.70	0.66	0.73	0.69	0.66	0.72	0.68	0.65	0.71	0.67	0.65	0.64
7	0.71	0.66	0.63	0.71	0.66	0.62	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.60
8	0.68	0.63	0.59	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.58	0.57
9	0.64	0.60	0.56	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
10	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52



NATA 2-1569-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	2005.70	2033.23	2027.18	1934.68	1748.59	1414.40	999.27	411.27	48.12		
45.0	2020.57	2018.92	2028.28	1989.74	1865.31	1637.38	1278.96	799.97	301.71		
90.0	2022.22	2016.72	2015.61	1975.97	1857.60	1610.95	1085.71	674.06	195.89		
135.0	2031.03	2004.60	2011.21	1993.04	1903.85	1694.64	1369.25	867.69	318.23		
180.0	2005.70	2017.27	2026.08	1990.84	1885.68	1680.87	1337.32	808.45	270.60		
225.0	2020.57	2058.01	2038.74	1952.85	1812.46	1470.56	999.66	451.68	57.81		
270.0	2022.22	2064.62	2060.21	2000.75	1847.14	1538.28	1095.07	534.60	90.73		
315.0	2031.03	2055.81	2044.79	1942.94	1747.49	1396.23	948.24	361.17	38.15		
360.0	2005.70	2033.23	2027.18	1934.68	1748.59	1414.40	999.27	411.27	48.12		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	17.45	11.18	9.63	9.03	8.53	8.15	7.87	7.76	7.71		
45.0	25.27	13.38	10.13	9.30	8.81	8.42	8.09	7.82	7.71		
90.0	23.07	12.44	9.91	9.19	8.75	8.37	8.09	7.82	7.71		
135.0	29.23	14.98	10.24	9.47	8.86	8.53	8.15	9.91	7.87		
180.0	26.87	13.76	10.08	9.25	8.81	8.37	8.09	7.82	7.76		
225.0	17.07	11.07	9.47	8.92	8.48	8.09	7.87	7.71	7.65		
270.0	18.66	11.01	9.63	8.97	8.59	8.15	7.93	7.76	7.71		
315.0	16.08	10.63	9.52	9.03	8.48	8.15	7.87	7.76	7.71		
360.0	17.45	11.18	9.63	9.03	8.53	8.15	7.87	7.76	7.71		
C/γ(°)	90.0										
0.0	7.65										
45.0	7.65										
90.0	7.71										
135.0	7.65										
180.0	7.71										
225.0	7.65										
270.0	7.65										
315.0	7.65										
360.0	7.65										