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Nata

LumCAT: 3-1920-E	
Luminaire: 92.76.323.00	
Report No: NATA0100	Voltage(V): 218.0000
Test No: GC2019111516	Current(A): 0.0810
LampCAT: LUMENS EDC-57-20W	Power (W): 17.6000
Lamp flux(lm): 1515.0	PF: 0.9940
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1323.28
Efficiency(%): 87.34%
Lumens(lm)/Power(W): 75.19
Central intensity(cd): 1959.188
Maximum intensity(cd): 1959.188
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=51.7
[C90/270]Total=51.7
Field angle(10%Imax): [C0/180]Total=73.7
[C90/270]Total=73.7
Maximum s/h(1/2): C0_180=0.79 C90_270=0.79
Maximum s/h(1/4): C0_180=0.82 C90_270=0.82
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.34%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.368%

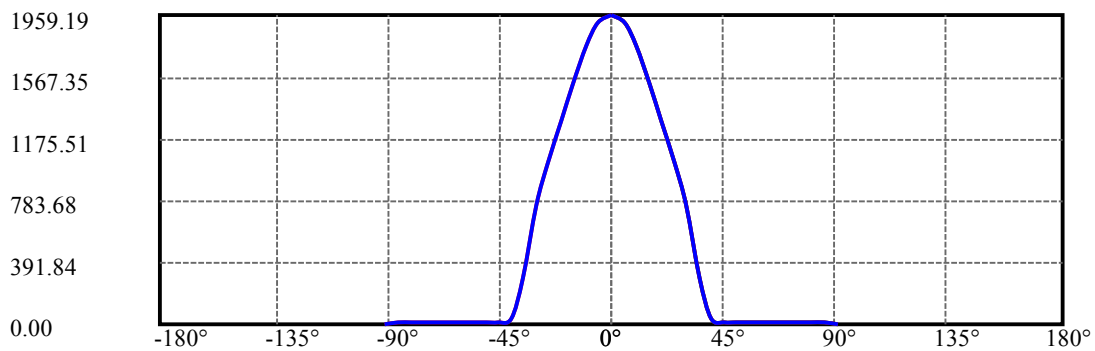
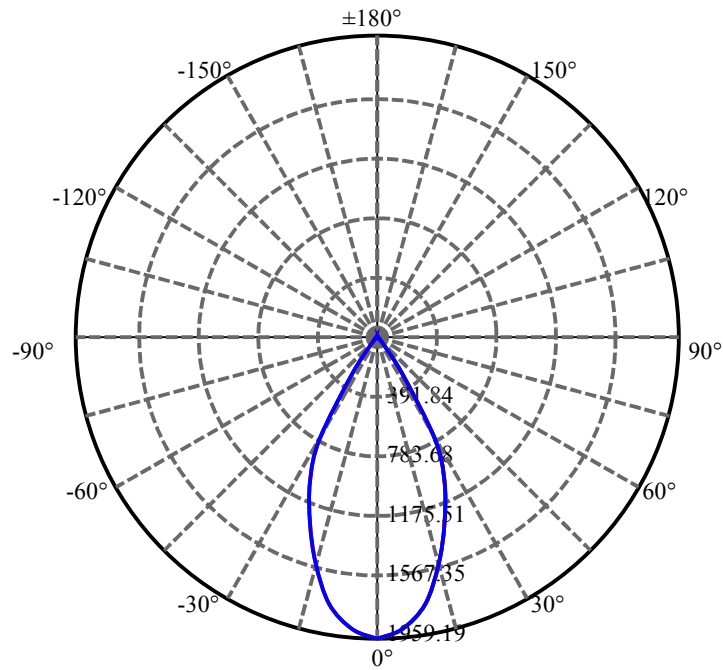
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1959.188	0.000	0	.000%	.000%
5.0	1907.297	46.223	46.223	3.051%	3.493%
10.0	1762.664	131.286	177.509	8.666%	13.414%
15.0	1526.977	195.139	372.648	12.880%	28.161%
20.0	1285.523	231.790	604.438	15.300%	45.677%
25.0	1026.274	242.465	846.902	16.004%	64.000%
30.0	757.765	225.772	1072.674	14.902%	81.062%
35.0	289.505	154.218	1226.892	10.179%	92.716%
40.0	38.911	54.794	1281.686	3.617%	96.857%
45.0	12.016	9.430	1291.115	.622%	97.570%
50.0	7.763	3.997	1295.112	.264%	97.872%
55.0	7.235	3.261	1298.373	.215%	98.118%
60.0	7.088	3.311	1301.683	.219%	98.368%
65.0	6.996	3.424	1305.107	.226%	98.627%
70.0	6.996	3.543	1308.65	.234%	98.895%
75.0	8.121	3.951	1312.601	.261%	99.193%
80.0	6.427	3.893	1316.494	.257%	99.488%
85.0	6.202	3.431	1319.925	.226%	99.747%
90.0	6.033	3.350	1323.275	.221%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1072.67	70.80%	81.06%
0-40	1281.69	84.60%	96.86%
0-60	1301.68	85.92%	98.37%
0-90	1319.93	87.12%	99.75%
0-120	1319.93	87.12%	99.75%
0-180	1323.28	87.34%	100.00%
60-90	21.55	1.42%	1.63%
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%
0-29.69	1058.62	69.88%	80.00%

ZONAL LUMEN SUMMARY

0-10	177.51
10-20	426.93
20-30	468.24
30-40	209.01
40-50	13.43
50-60	6.57
60-70	6.97
70-80	7.84
80-90	3.43
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: —————

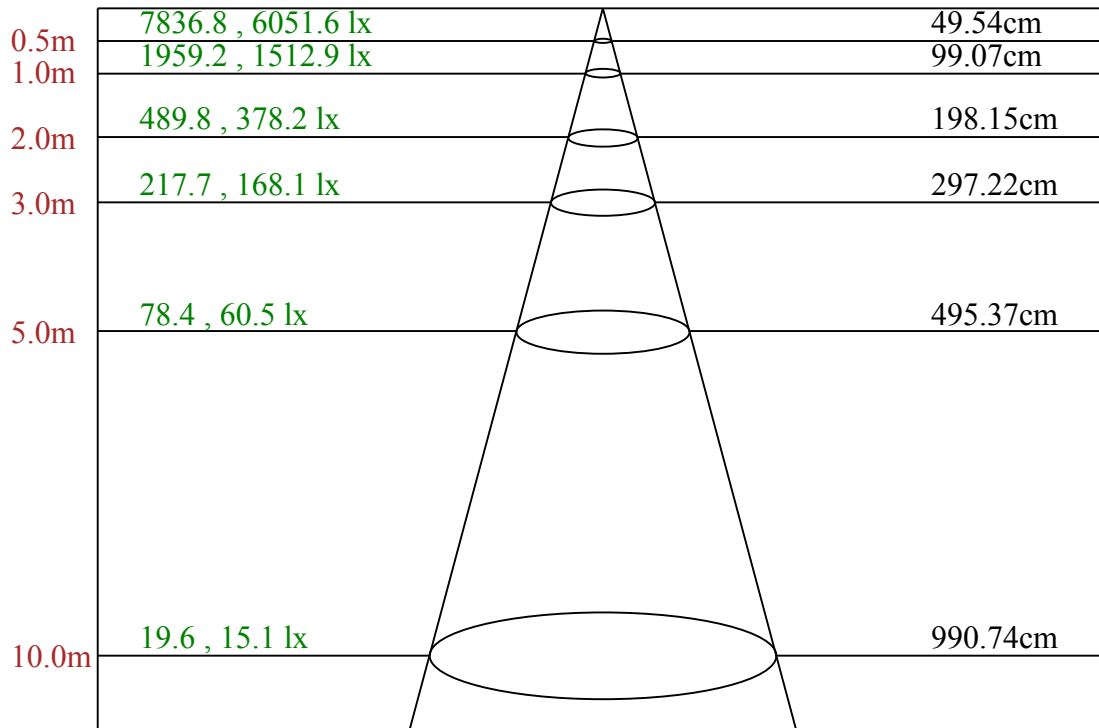
C90/C270: —————

Field angle(10%Imax):C0/180Left:36.9 Right:36.9

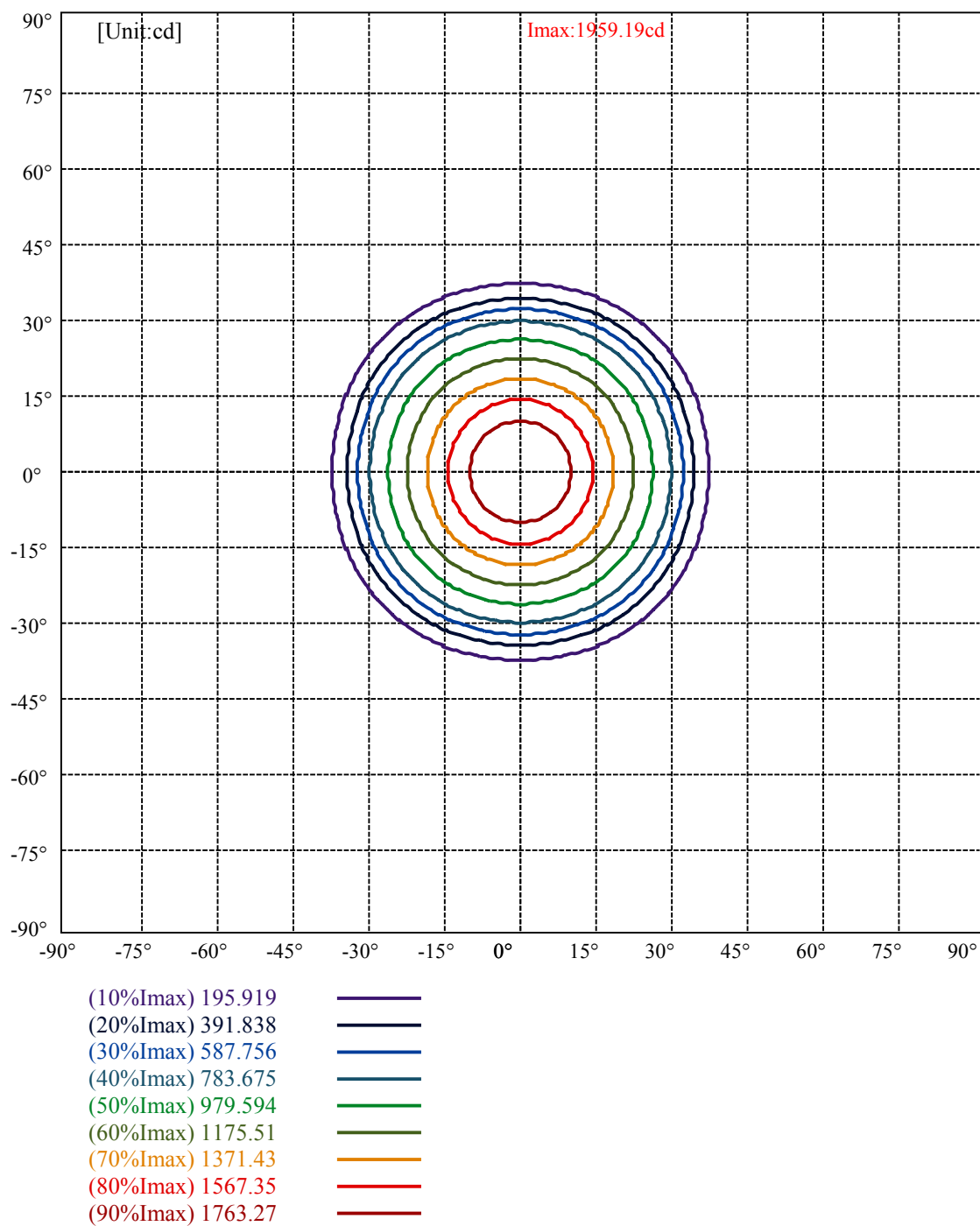
:C90/270Left:36.9 Right:36.9

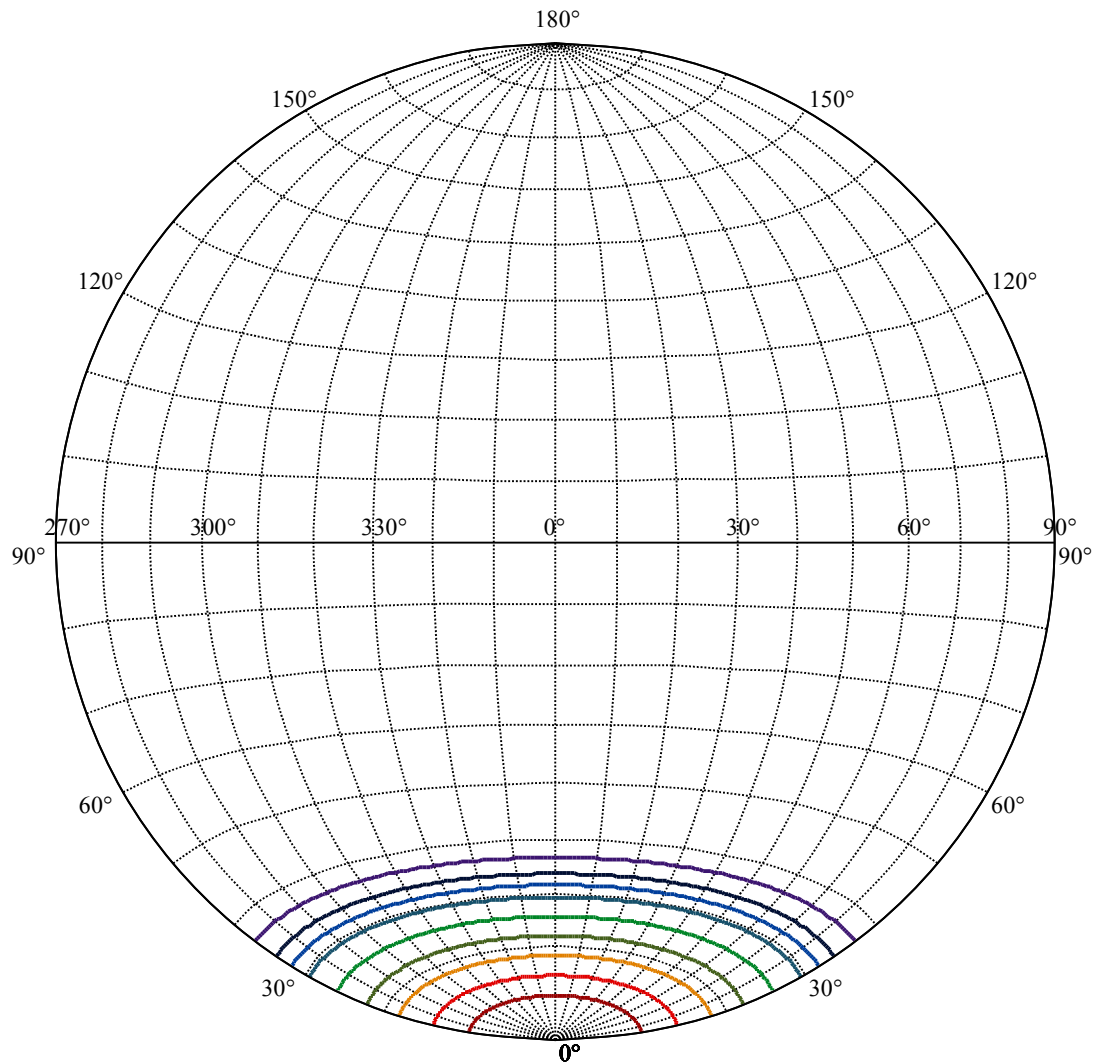
Beam Angle(50%Imax):C0/180Left:25.9 Right:25.9

:C90/270Left:25.9 Right:25.9



Max , Ave Beam angle of C0 plane 52.70





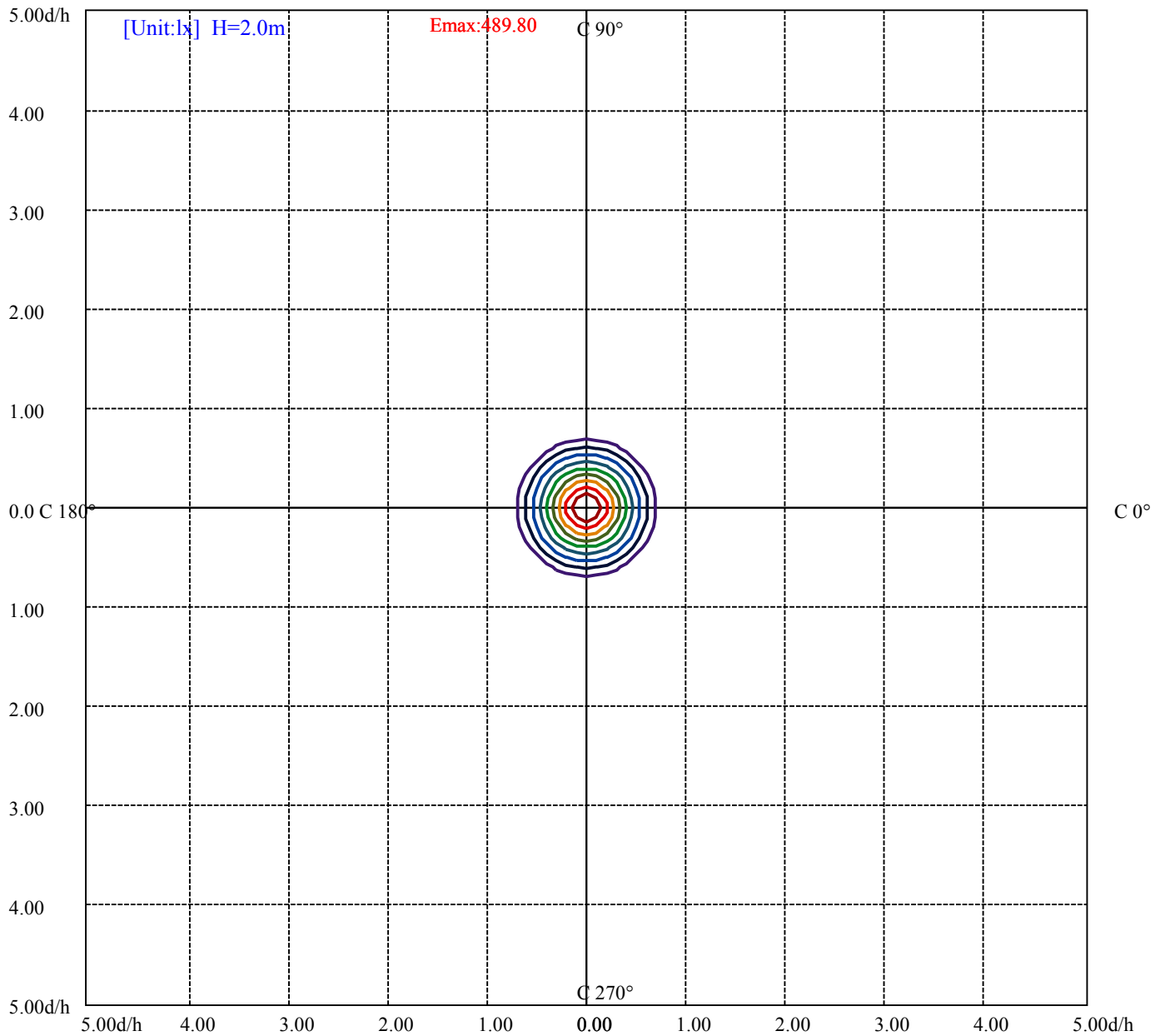
House

[Unit:cd]

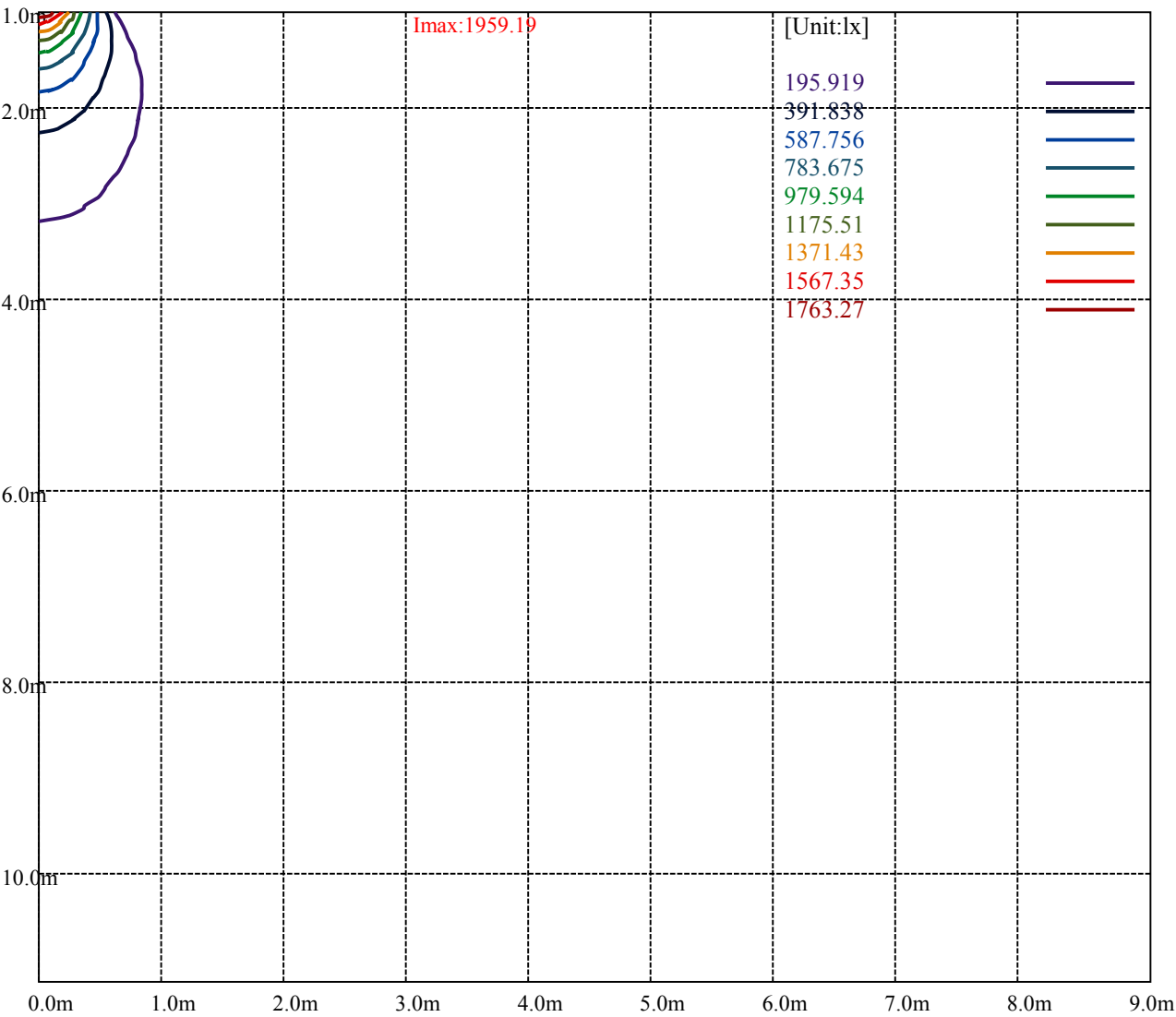
Road

Imax:1959.19

(10%Imax)	195.919	—
(20%Imax)	391.838	—
(30%Imax)	587.756	—
(40%Imax)	783.675	—
(50%Imax)	979.594	—
(60%Imax)	1175.51	—
(70%Imax)	1371.43	—
(80%Imax)	1567.35	—
(90%Imax)	1763.27	—



(10%Emax) 48.97975	—
(20%Emax) 97.95925	—
(30%Emax) 146.939	—
(40%Emax) 195.9185	—
(50%Emax) 244.8983	—
(60%Emax) 293.8775	—
(70%Emax) 342.8575	—
(80%Emax) 391.8375	—
(90%Emax) 440.8175	—



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

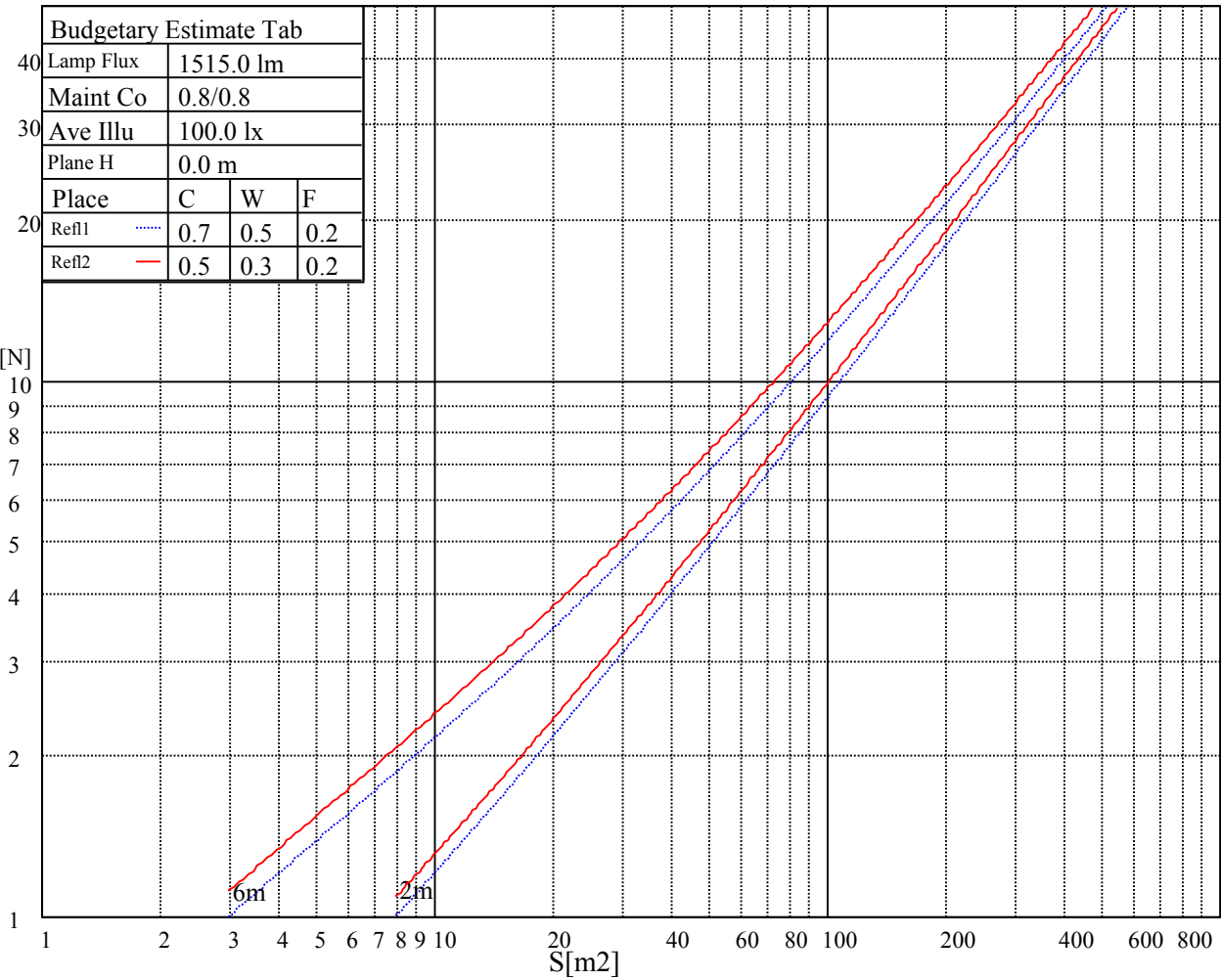
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

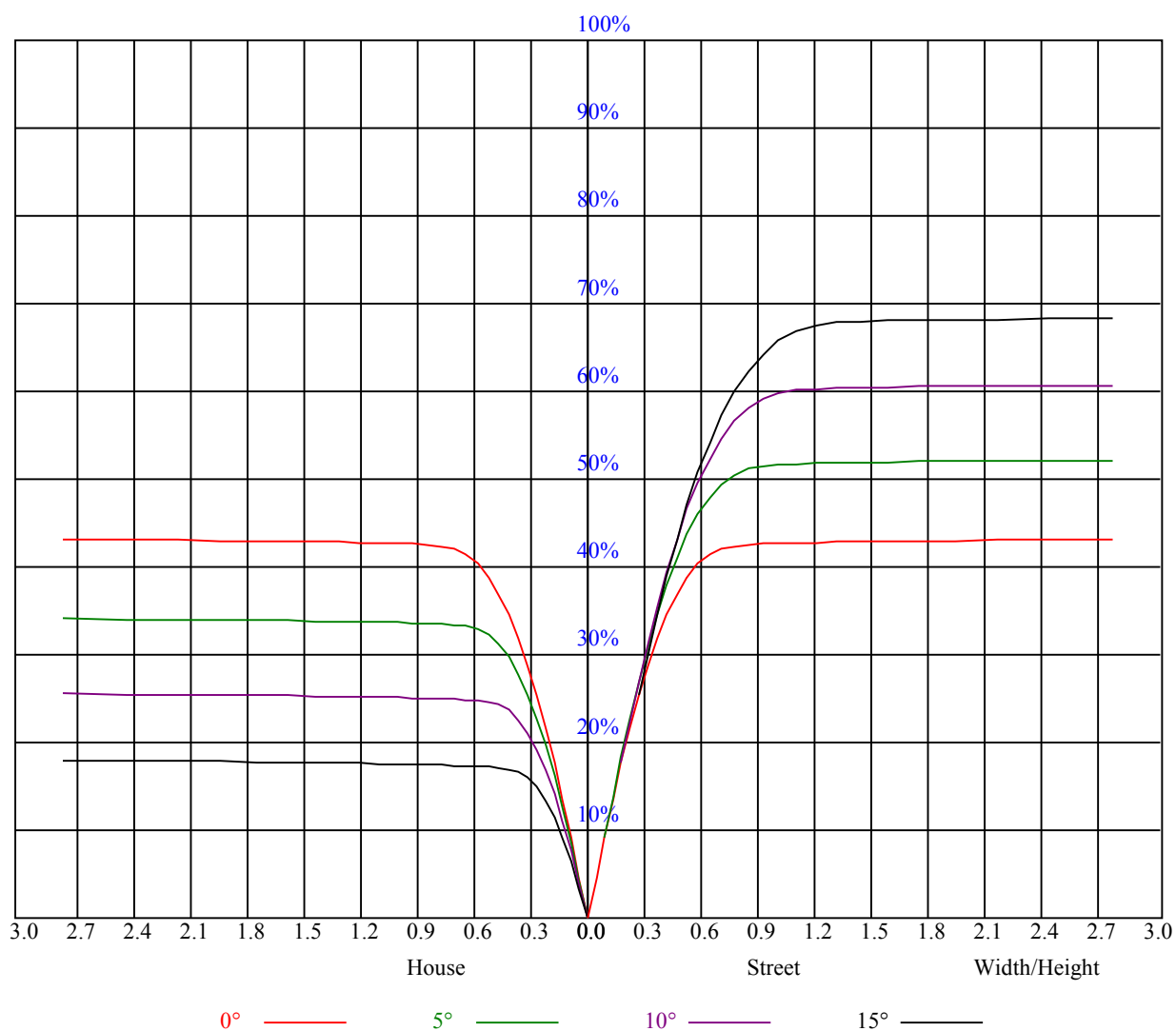
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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 RHOFC=20 CU															
0	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.95	0.93	0.95	0.93	0.91	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82
2	0.91	0.87	0.84	0.89	0.86	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.81	0.80	0.78	0.77
3	0.85	0.81	0.78	0.84	0.80	0.77	0.82	0.78	0.76	0.80	0.77	0.75	0.78	0.75	0.74	0.72
4	0.80	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.72	0.70	0.74	0.71	0.69	0.68
5	0.76	0.71	0.67	0.75	0.70	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.70	0.68	0.65	0.64
6	0.71	0.67	0.63	0.71	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.60
7	0.68	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	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.54
9	0.61	0.56	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.51
10	0.58	0.53	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.49



Nata 3-1920-E

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	1953.00	1916.44	1779.19	1547.44	1309.50	1065.94	792.00	343.13	44.72		
45.0	1958.63	1919.81	1778.06	1568.25	1315.69	1038.38	771.75	328.50	40.28		
90.0	1963.13	1896.19	1745.44	1497.94	1251.00	993.26	720.62	221.29	38.48		
135.0	1962.00	1910.81	1787.06	1545.75	1294.31	1035.00	784.69	316.13	41.46		
180.0	1953.00	1893.94	1736.44	1503.56	1265.63	989.66	719.27	231.64	33.92		
225.0	1958.63	1895.06	1743.75	1475.44	1268.44	1007.27	715.33	264.94	36.17		
270.0	1963.13	1920.94	1777.50	1567.13	1307.81	1064.25	812.25	357.75	41.23		
315.0	1962.00	1905.19	1753.88	1510.31	1271.81	1016.44	746.21	252.68	35.04		
360.0	1953.00	1916.44	1779.19	1547.44	1309.50	1065.94	792.00	343.13	44.72		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	14.23	7.88	7.26	7.03	6.98	6.86	7.14	6.47	6.19		
45.0	10.97	7.76	7.20	6.98	6.92	6.81	6.58	6.36	6.19		
90.0	12.09	7.65	7.31	7.20	7.03	6.75	6.58	6.30	6.19		
135.0	12.71	7.82	7.20	6.98	6.86	6.86	6.69	6.41	6.13		
180.0	10.74	7.71	7.26	7.20	7.03	7.43	9.79	6.47	6.19		
225.0	12.49	7.71	7.26	7.20	7.09	7.43	11.19	6.41	6.24		
270.0	11.87	7.93	7.14	6.92	6.92	6.92	6.81	6.58	6.24		
315.0	11.03	7.65	7.26	7.20	7.14	6.92	10.18	6.41	6.24		
360.0	14.23	7.88	7.26	7.03	6.98	6.86	7.14	6.47	6.19		
C/γ(°)	90.0										
0.0	6.02										
45.0	6.02										
90.0	6.02										
135.0	6.08										
180.0	6.02										
225.0	6.02										
270.0	6.08										
315.0	6.02										
360.0	6.02										