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NATA

Client:

LumCAT: 1534-E

Luminaire: 92.70.064.00

Report No: nt0100

Test No: GC2020011601

LampCAT: LUMINUS CXM-9-AC40

Lamp flux(lm): 1100.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 33.9300

Current(A): 0.2970

Power (W): 10.0800

PF: 0.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 878.89, Efficiency(%): 79.90% , Luminous Efficacy(lm/W): 87.19

Central intensity(cd): 1459.828, Maximum intensity(cd): 1459.828

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=36.8

[C90/270]Total=36.8

Field angle(10%Imax): [C0/180]Total=82.4

[C90/270]Total=82.4

Maximum s/h(1/2): C0_180=0.59 C90_270=0.59

Maximum s/h(1/4): C0_180=0.65 C90_270=0.65

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 79.90%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.807%

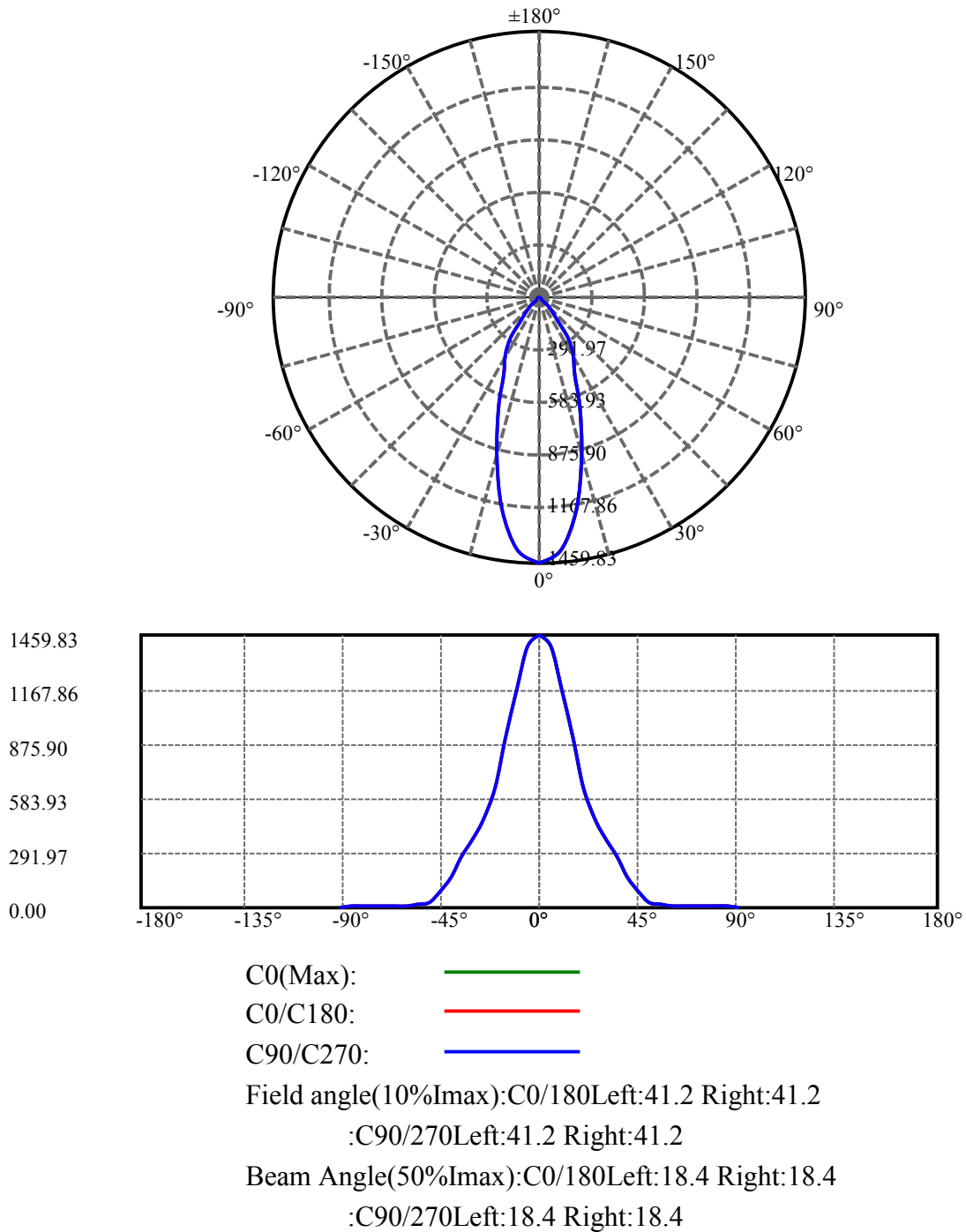
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1459.828	0.000	0	.000%	.000%
5.0	1395.352	34.133	34.133	3.103%	3.884%
10.0	1175.745	91.976	126.109	8.361%	14.349%
15.0	906.265	123.503	249.612	11.228%	28.401%
20.0	643.352	127.710	377.323	11.610%	42.932%
25.0	468.218	116.583	493.906	10.598%	56.196%
30.0	370.139	106.095	600.001	9.645%	68.268%
35.0	270.745	94.375	694.375	8.580%	79.006%
40.0	166.113	72.887	767.262	6.626%	87.299%
45.0	79.291	45.439	812.701	4.131%	92.469%
50.0	29.609	22.005	834.705	2.000%	94.972%
55.0	15.110	9.723	844.429	.884%	96.079%
60.0	12.593	6.403	850.832	.582%	96.807%
65.0	11.138	5.769	856.601	.524%	97.464%
70.0	10.146	5.389	861.99	.490%	98.077%
75.0	9.239	5.067	867.057	.461%	98.653%
80.0	8.395	4.718	871.776	.429%	99.190%
85.0	7.045	4.196	875.971	.381%	99.667%
90.0	3.628	2.922	878.894	.266%	100.000%

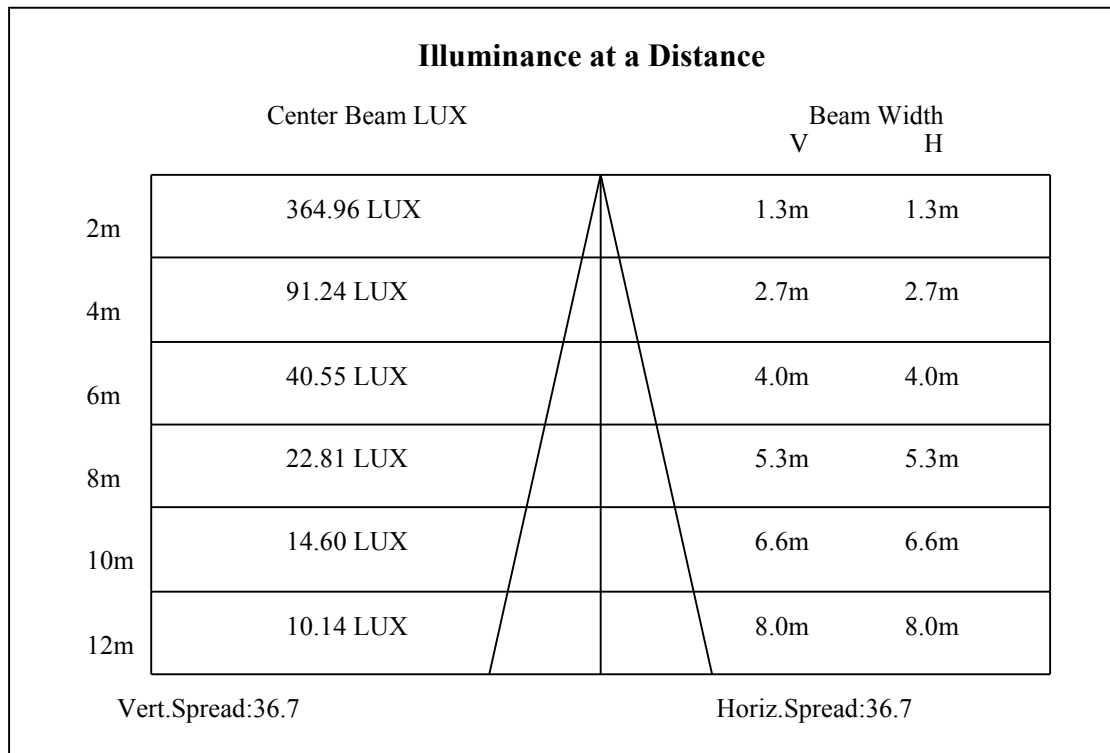
ZONAL LUMEN SUMMARY

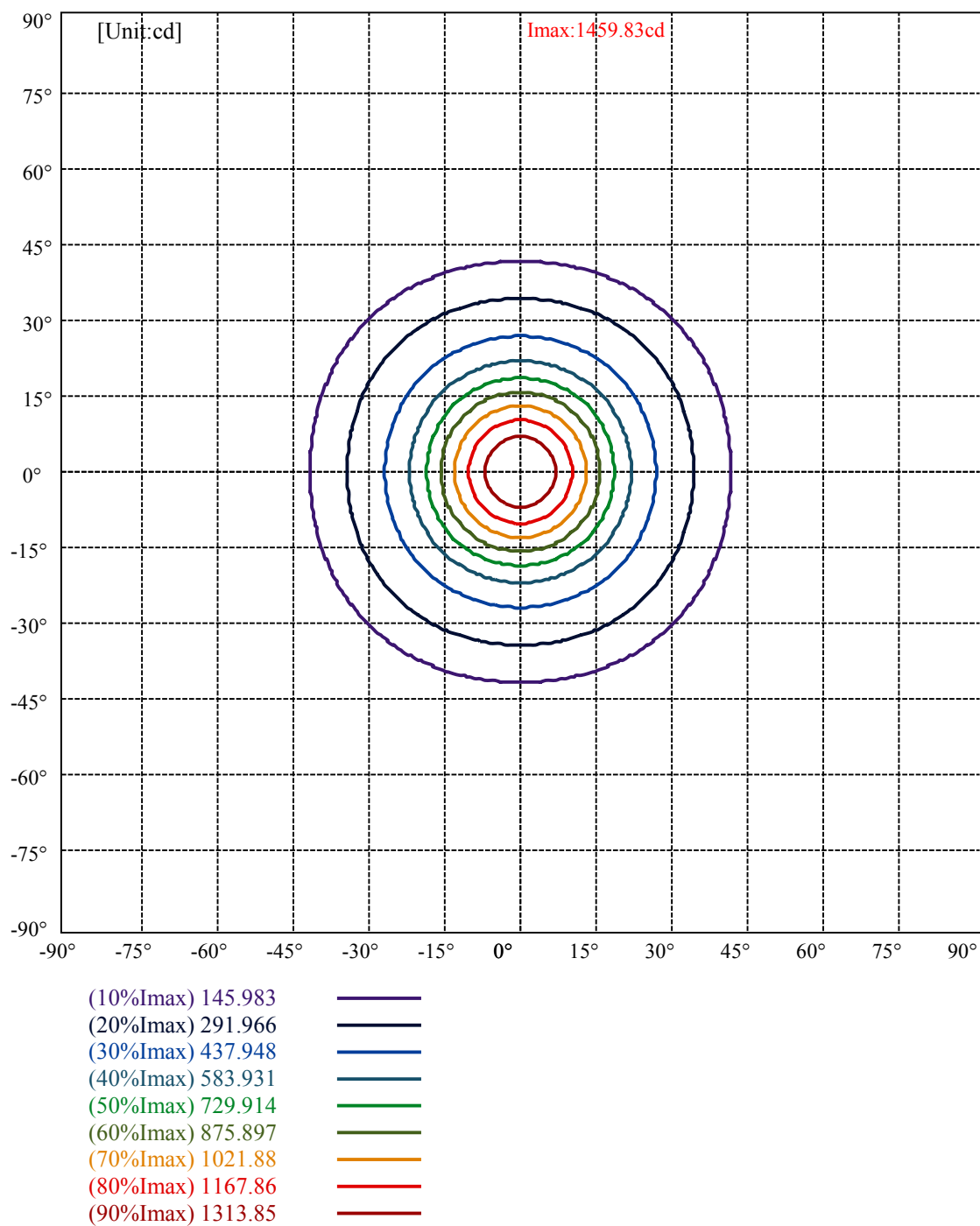
Zone	Lumens	%Lamp	%Fixt
0-30	600.00	54.55%	68.27%
0-40	767.26	69.75%	87.30%
0-60	850.83	77.35%	96.81%
0-90	875.97	79.63%	99.67%
0-120	875.97	79.63%	99.67%
0-180	878.89	79.90%	100.00%
60-90	31.54	2.87%	3.59%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-35.60	703.12	63.92%	80.00%

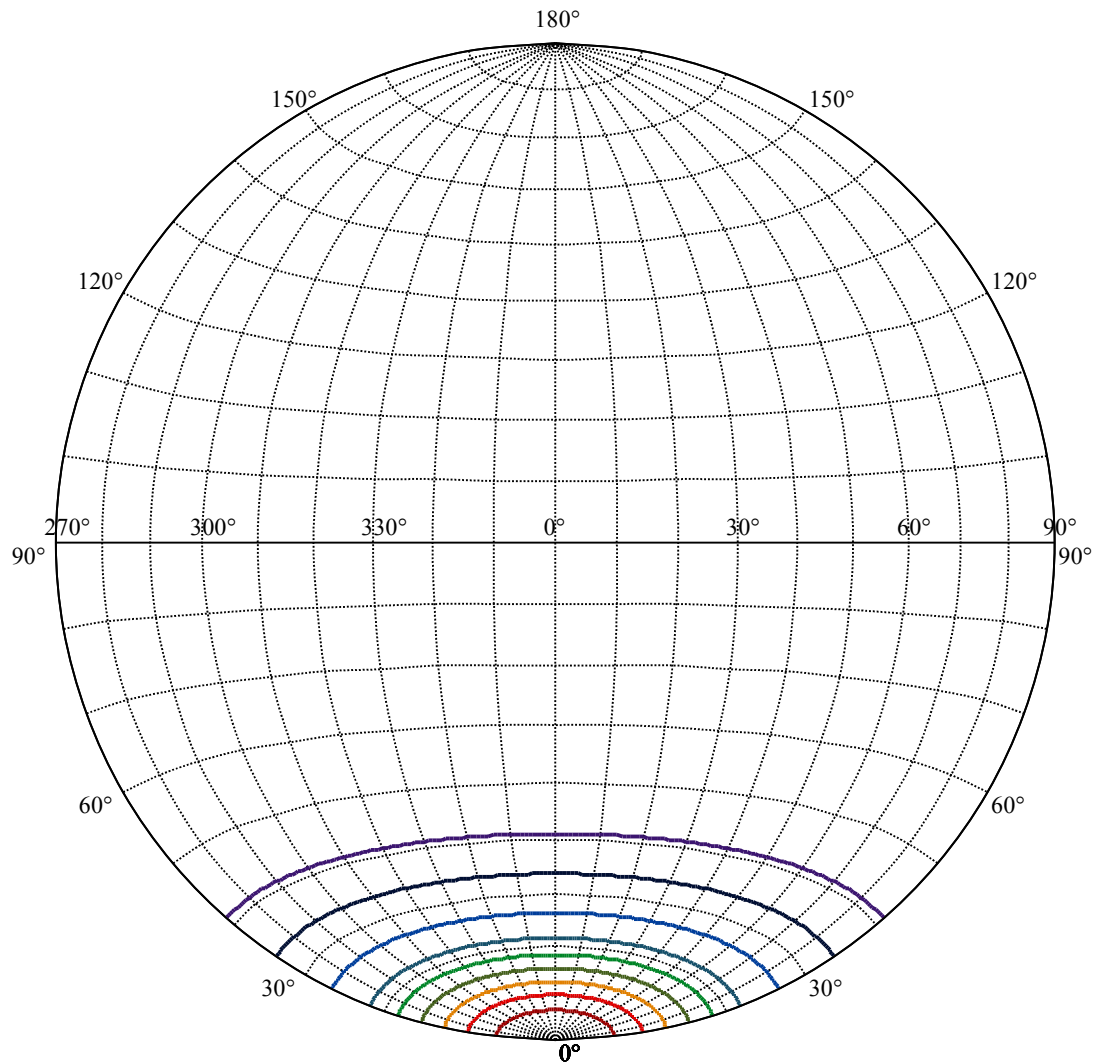
ZONAL LUMEN SUMMARY

0-10	126.11
10-20	251.21
20-30	222.68
30-40	167.26
40-50	67.44
50-60	16.13
60-70	11.16
70-80	9.79
80-90	4.20
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







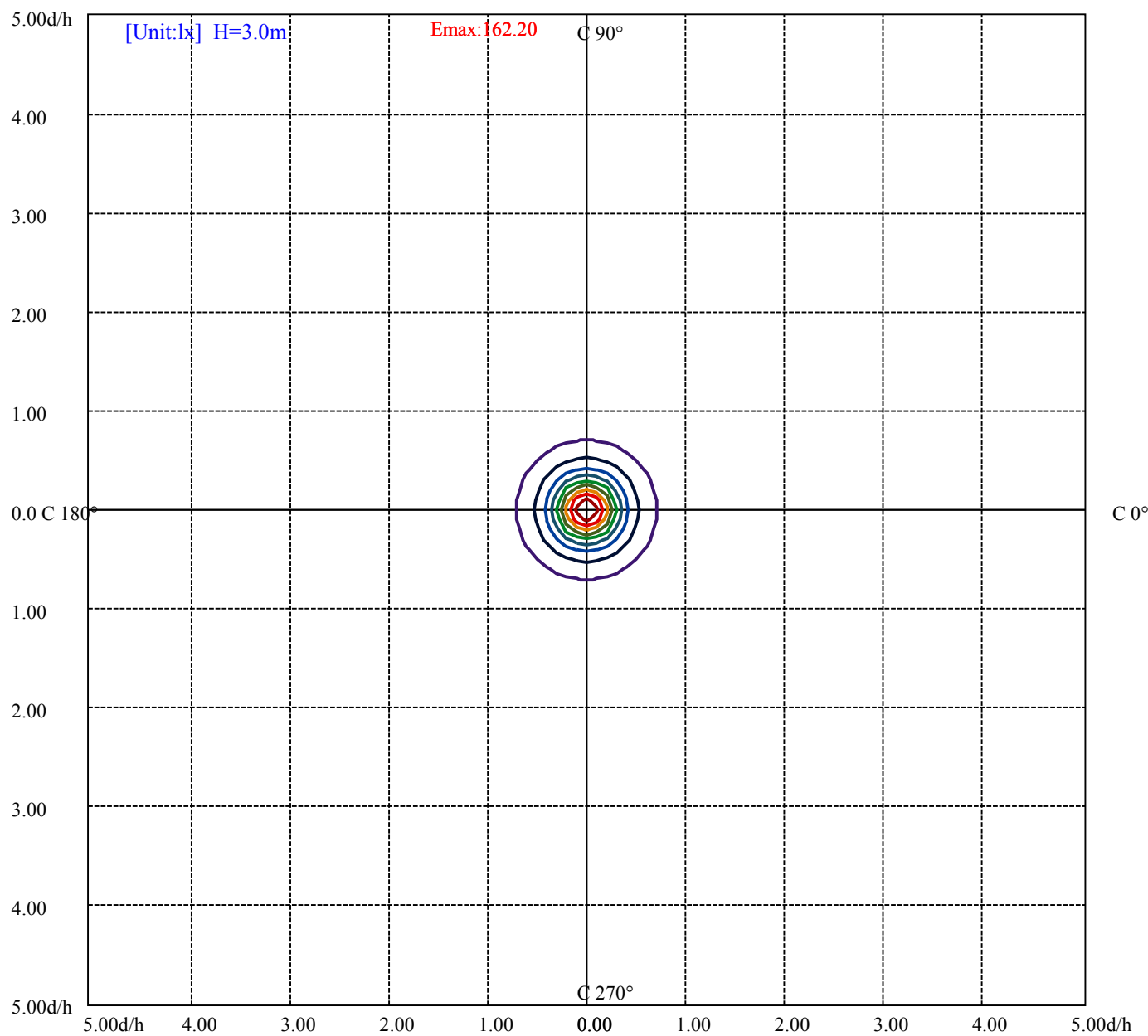


House

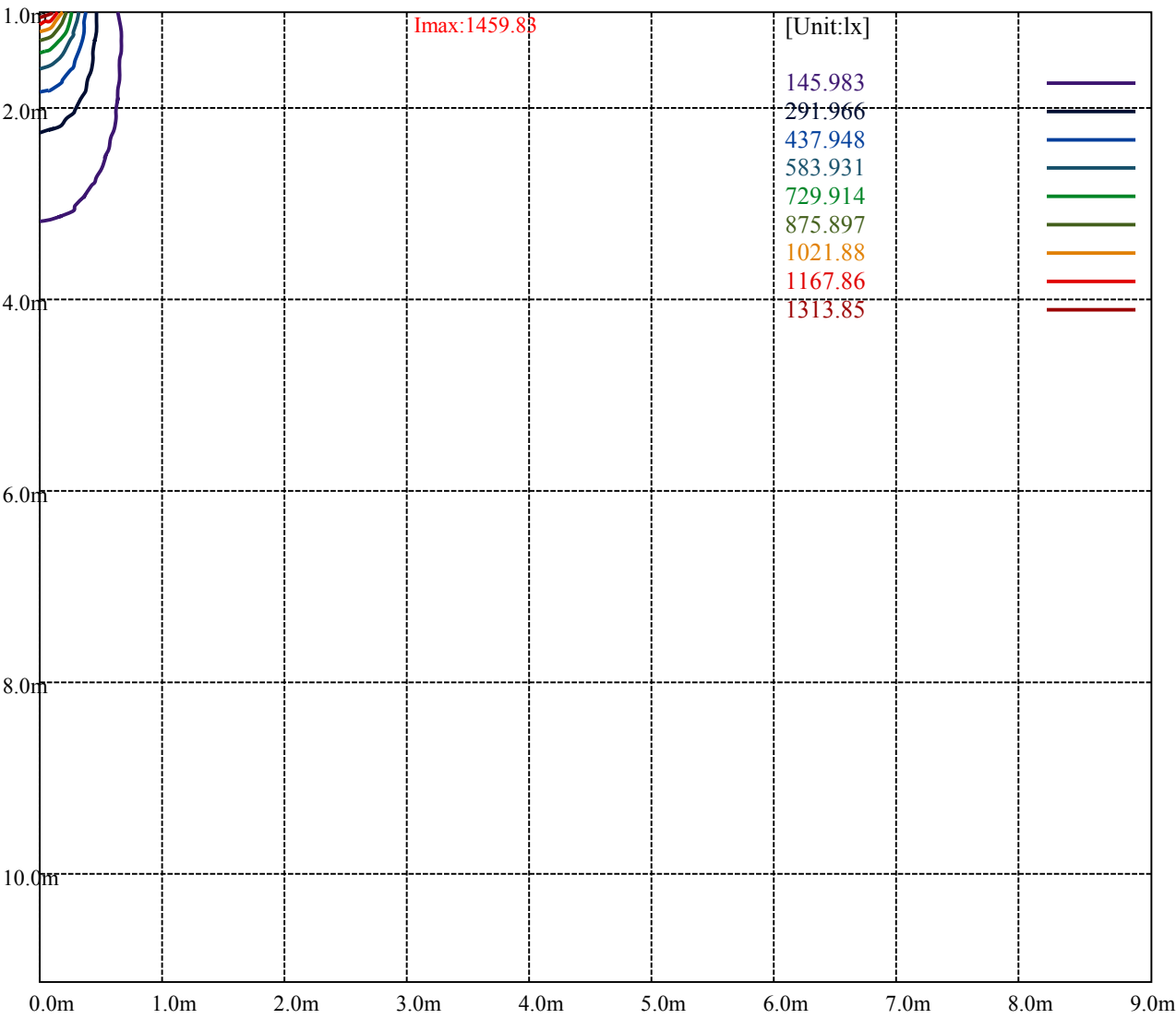
[Unit:cd]

Road

I_{max}:1459.83(10%I_{max}) 145.983(20%I_{max}) 291.966(30%I_{max}) 437.948(40%I_{max}) 583.931(50%I_{max}) 729.914(60%I_{max}) 875.897(70%I_{max}) 1021.88(80%I_{max}) 1167.86(90%I_{max}) 1313.85



(10%E _{max}) 16.22033	
(20%E _{max}) 32.44056	
(30%E _{max}) 48.66089	
(40%E _{max}) 64.88111	
(50%E _{max}) 81.10145	
(60%E _{max}) 97.32178	
(70%E _{max}) 113.5422	
(80%E _{max}) 129.7622	
(90%E _{max}) 145.9822	



Luminance Table

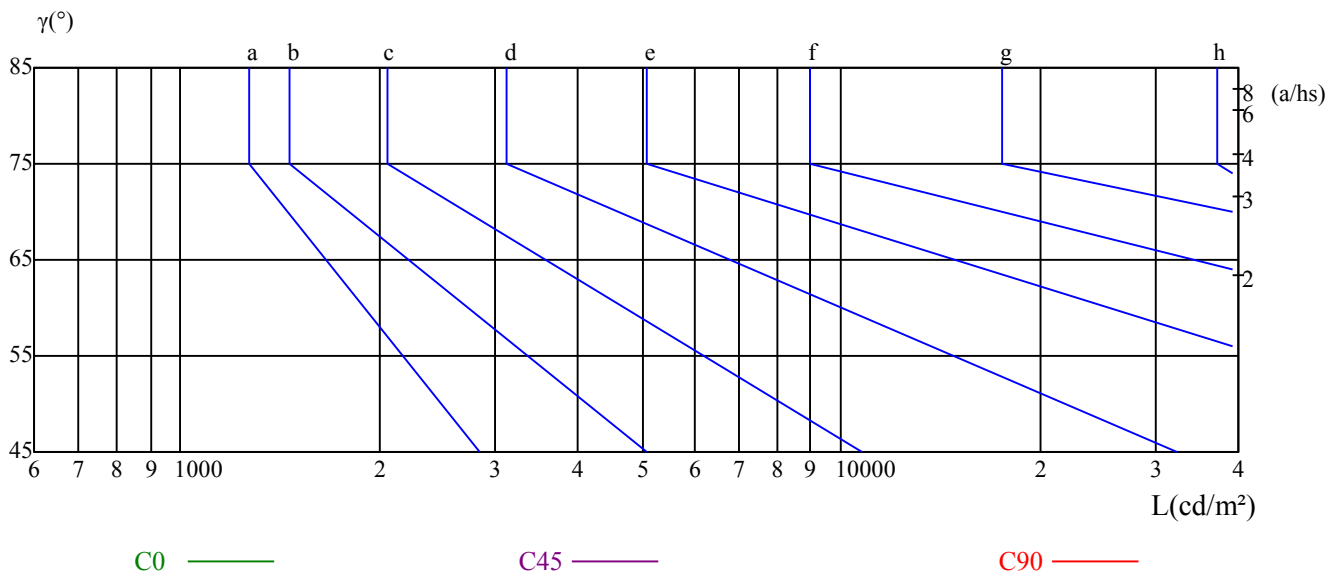
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

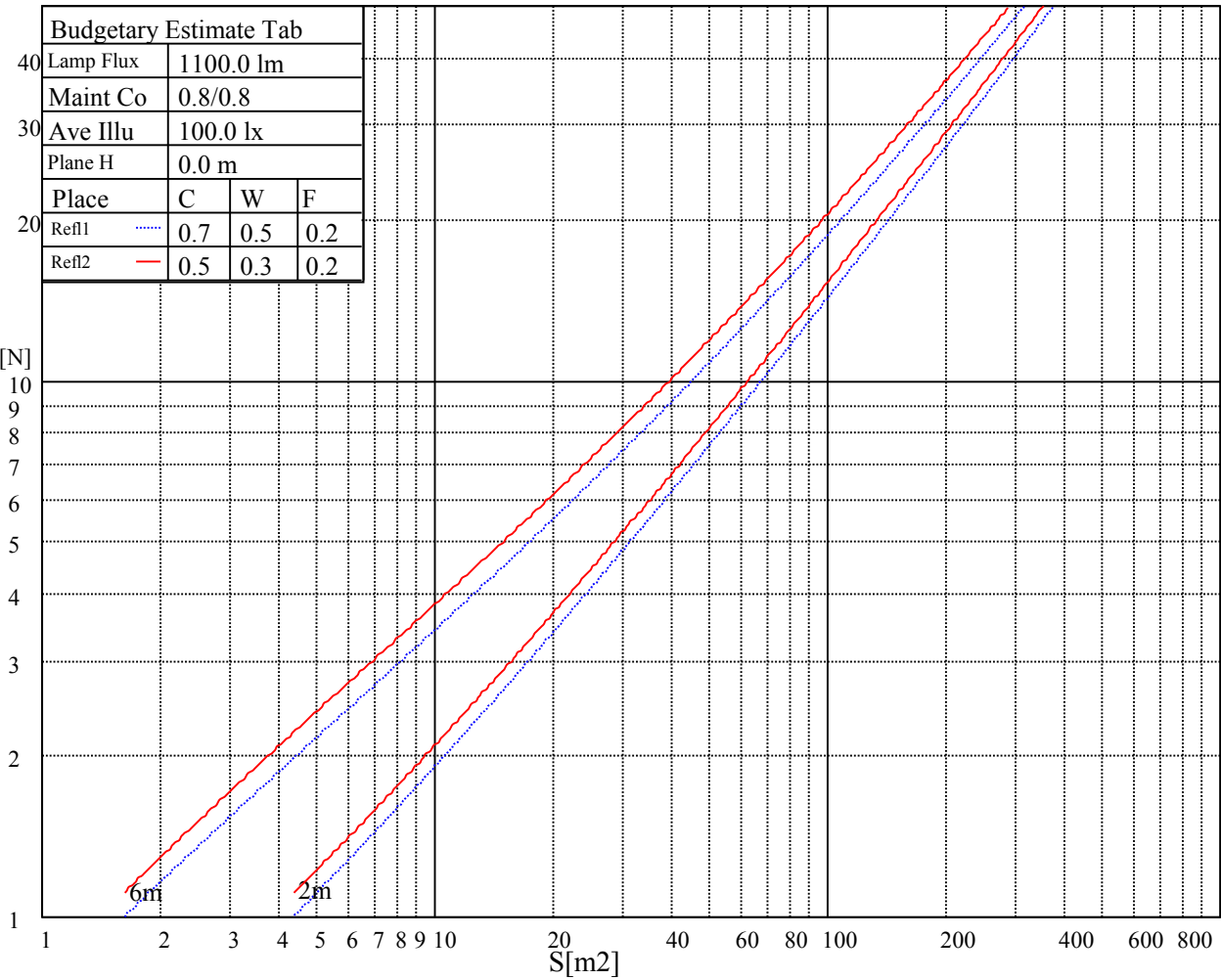
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

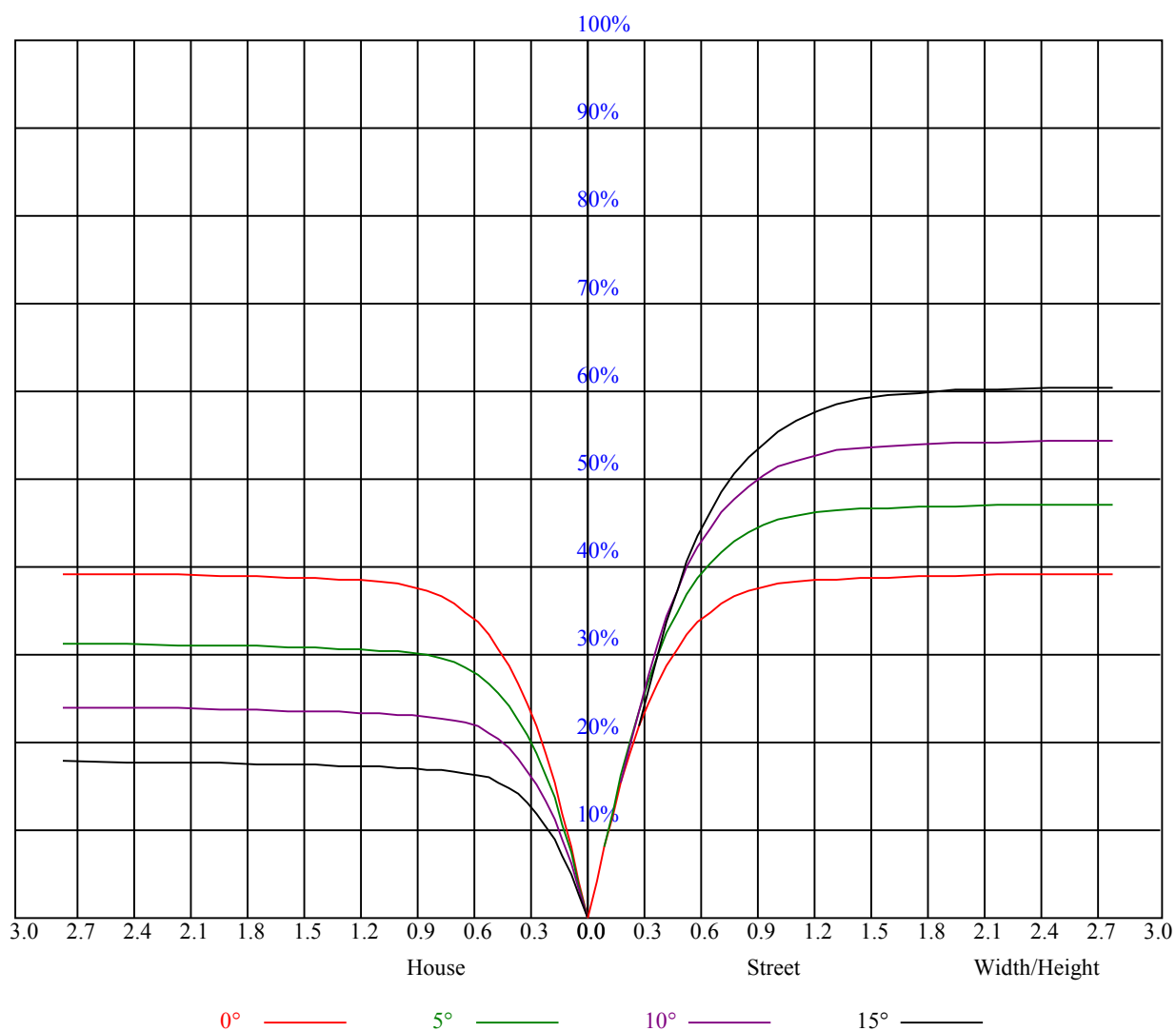
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

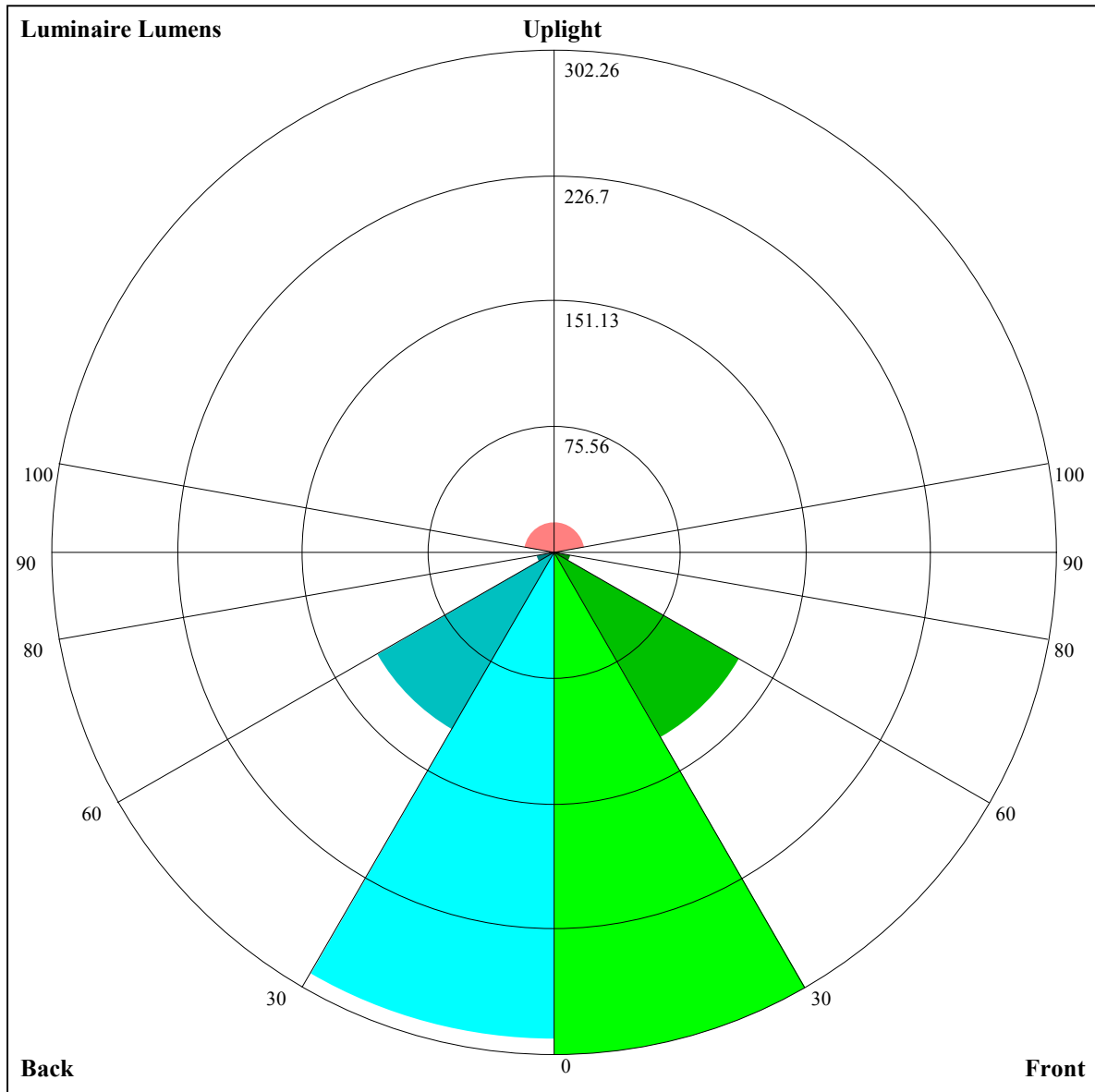
Luminance Limiting Curve





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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.88	0.86	0.84	0.86	0.84	0.83	0.83	0.81	0.80	0.80	0.79	0.78	0.77	0.76	0.75	0.74
2	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.75	0.73	0.71	0.73	0.71	0.70	0.68
3	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.67	0.71	0.68	0.66	0.69	0.67	0.65	0.64
4	0.71	0.66	0.63	0.70	0.66	0.63	0.68	0.65	0.62	0.67	0.64	0.61	0.65	0.63	0.60	0.59
5	0.67	0.62	0.58	0.66	0.61	0.58	0.64	0.61	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.55
6	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.59	0.55	0.53	0.52
7	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.56	0.53	0.50	0.56	0.52	0.50	0.49
8	0.56	0.51	0.48	0.55	0.51	0.48	0.54	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	0.48	0.45	0.51	0.47	0.45	0.50	0.47	0.44	0.43
10	0.50	0.46	0.43	0.50	0.45	0.42	0.49	0.45	0.42	0.49	0.45	0.42	0.48	0.45	0.42	0.41





Luminaire Lumens:

FL=302.26,FM=128.55,FH=10.21,FVH=3.56

BL=293.29,BM=123.03,BH=10.88,BVH=3.61

UL=3.96,UH=18.84

BUG Rating:B1-U2-G0

NATA 1534-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	1463.63	1410.75	1231.88	972.56	676.69	479.81	381.38	288.56	173.14	
45.0	1455.19	1455.19	1299.38	978.75	663.19	468.56	360.56	285.75	159.53	
90.0	1466.44	1445.06	1120.33	879.30	621.90	454.11	353.48	247.05	157.16	
135.0	1456.31	1453.50	1235.25	916.31	654.19	472.50	367.31	285.19	178.31	
180.0	1463.63	1381.50	1111.56	854.66	608.57	438.36	338.85	229.84	142.65	
225.0	1455.19	1329.19	1111.50	853.65	608.63	455.46	364.73	252.73	146.93	
270.0	1466.44	1362.38	1177.88	919.69	668.25	503.44	409.50	300.94	192.88	
315.0	1451.81	1325.25	1118.19	875.19	645.41	473.51	385.31	275.91	178.31	
360.0	1463.63	1410.75	1231.88	972.56	676.69	479.81	381.38	288.56	173.14	
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	
0.0	82.24	29.98	13.89	10.69	9.84	9.00	8.33	7.59	6.69	
45.0	77.85	32.74	16.99	14.12	12.21	10.86	9.56	8.16	6.75	
90.0	78.69	36.00	19.58	16.76	14.40	12.60	10.69	9.34	7.65	
135.0	87.24	38.59	20.08	17.21	15.02	13.11	11.64	10.35	8.94	
180.0	64.91	28.58	15.24	12.66	11.53	10.69	9.23	7.99	6.41	
225.0	64.58	21.71	11.53	9.45	8.55	8.33	7.88	6.75	5.79	
270.0	96.86	25.54	11.59	9.68	8.49	8.16	8.38	8.72	6.81	
315.0	81.96	23.74	11.98	10.18	9.06	8.44	8.21	8.27	7.31	
360.0	82.24	29.98	13.89	10.69	9.84	9.00	8.33	7.59	6.69	
C/γ(°)	90.0									
0.0	3.71									
45.0	3.60									
90.0	3.60									
135.0	3.60									
180.0	3.66									
225.0	3.66									
270.0	3.60									
315.0	3.60									
360.0	3.71									