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Nata

LumCAT: 3-2035-M	
Luminaire: 92.70.131.00	
Report No: NT2017051108	Voltage(V): 34.7600
Test No: GC2017051108	Current(A): 0.6000
LampCAT: SEOUL MTJ 24W	Power (W): 20.8560
Lamp flux(lm): 2937.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 78	Width(mm): 78
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2579.33
Efficiency(%): 87.82%
Lumens(lm)/Power(W): 123.67
Central intensity(cd): 4634.526
Maximum intensity(cd): 4634.526
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=42.1
[C90/270]Total=42.1
Field angle(10%Imax): [C0/180]Total=72.6
[C90/270]Total=72.6
Maximum s/h(1/2): C0_180=0.67 C90_270=0.67
Maximum s/h(1/4): C0_180=0.69 C90_270=0.69
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.82%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.632%

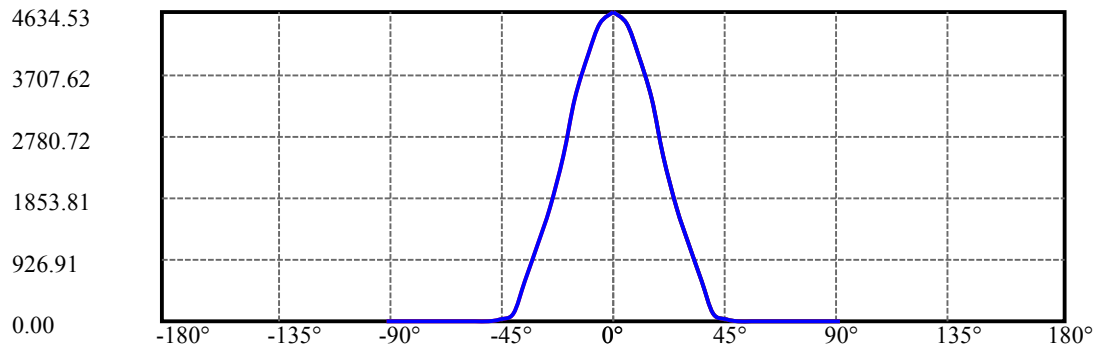
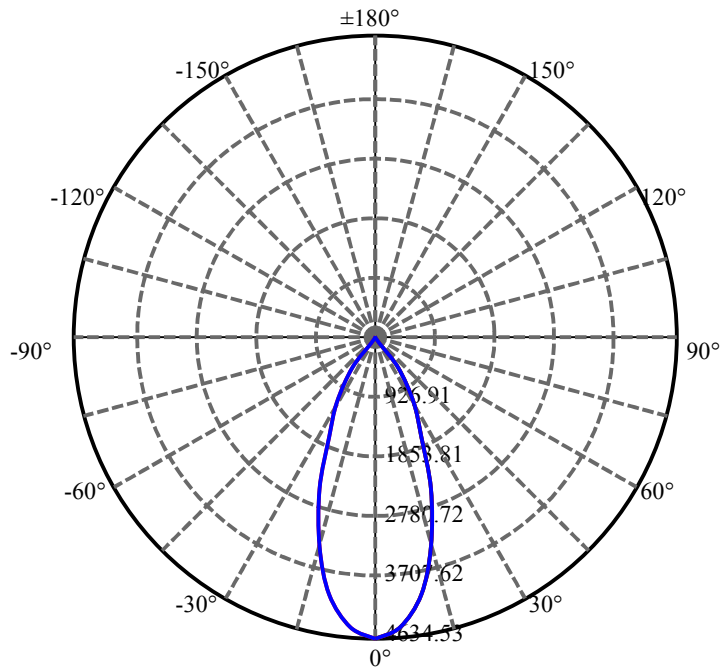
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4634.526	0.000	0	.000%	.000%
5.0	4468.754	108.827	108.827	3.705%	4.219%
10.0	4012.550	303.403	412.23	10.330%	15.982%
15.0	3333.740	435.777	848.007	14.837%	32.877%
20.0	2484.705	479.522	1327.529	16.327%	51.468%
25.0	1686.313	437.463	1764.991	14.895%	68.428%
30.0	1174.868	362.085	2127.076	12.328%	82.466%
35.0	591.966	260.179	2387.255	8.859%	92.553%
40.0	104.465	116.194	2503.449	3.956%	97.058%
45.0	17.315	22.548	2525.998	.768%	97.932%
50.0	14.094	6.347	2532.344	.216%	98.178%
55.0	12.953	5.881	2538.225	.200%	98.406%
60.0	12.264	5.829	2544.054	.198%	98.632%
65.0	11.680	5.821	2549.875	.198%	98.858%
70.0	11.311	5.821	2555.696	.198%	99.084%
75.0	11.026	5.839	2561.535	.199%	99.310%
80.0	11.089	5.917	2567.452	.201%	99.540%
85.0	10.901	5.975	2573.427	.203%	99.771%
90.0	10.650	5.901	2579.328	.201%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2127.08	72.42%	82.47%
0-40	2503.45	85.24%	97.06%
0-60	2544.05	86.62%	98.63%
0-90	2573.43	87.62%	99.77%
0-120	2573.43	87.62%	99.77%
0-180	2579.33	87.82%	100.00%
60-90	35.20	1.20%	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%
0-29.12	2063.46	70.26%	80.00%

ZONAL LUMEN SUMMARY

0-10	412.23
10-20	915.30
20-30	799.55
30-40	376.37
40-50	28.90
50-60	11.71
60-70	11.64
70-80	11.76
80-90	5.98
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:

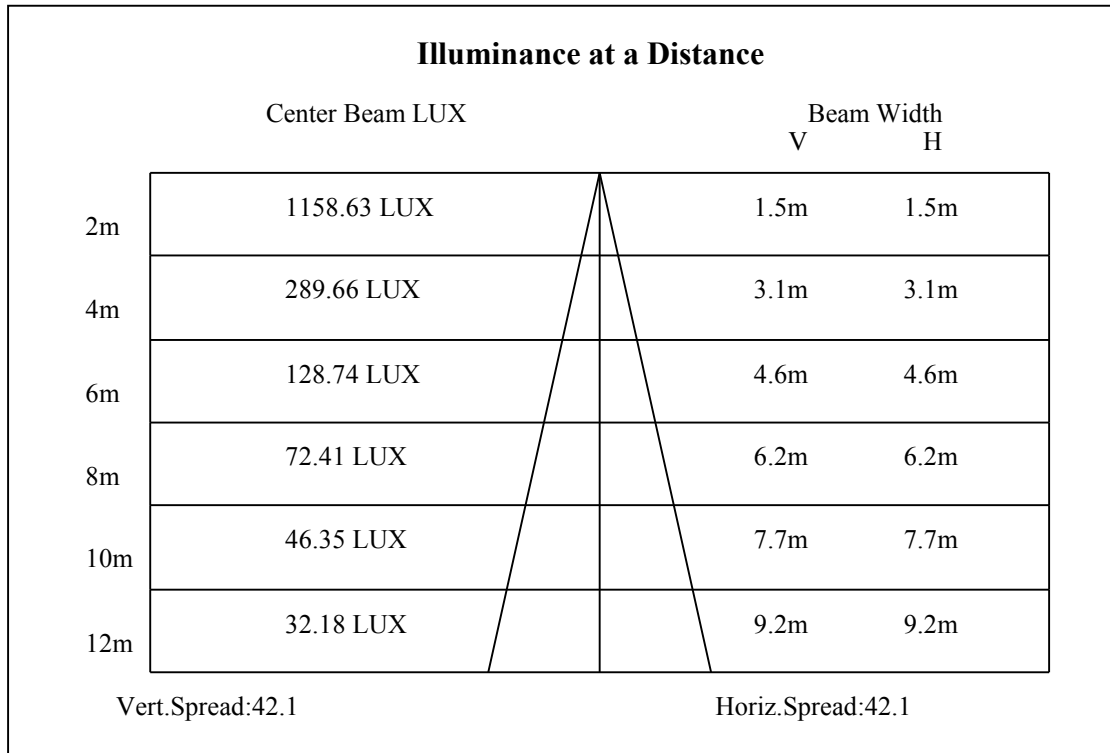
C90/C270:

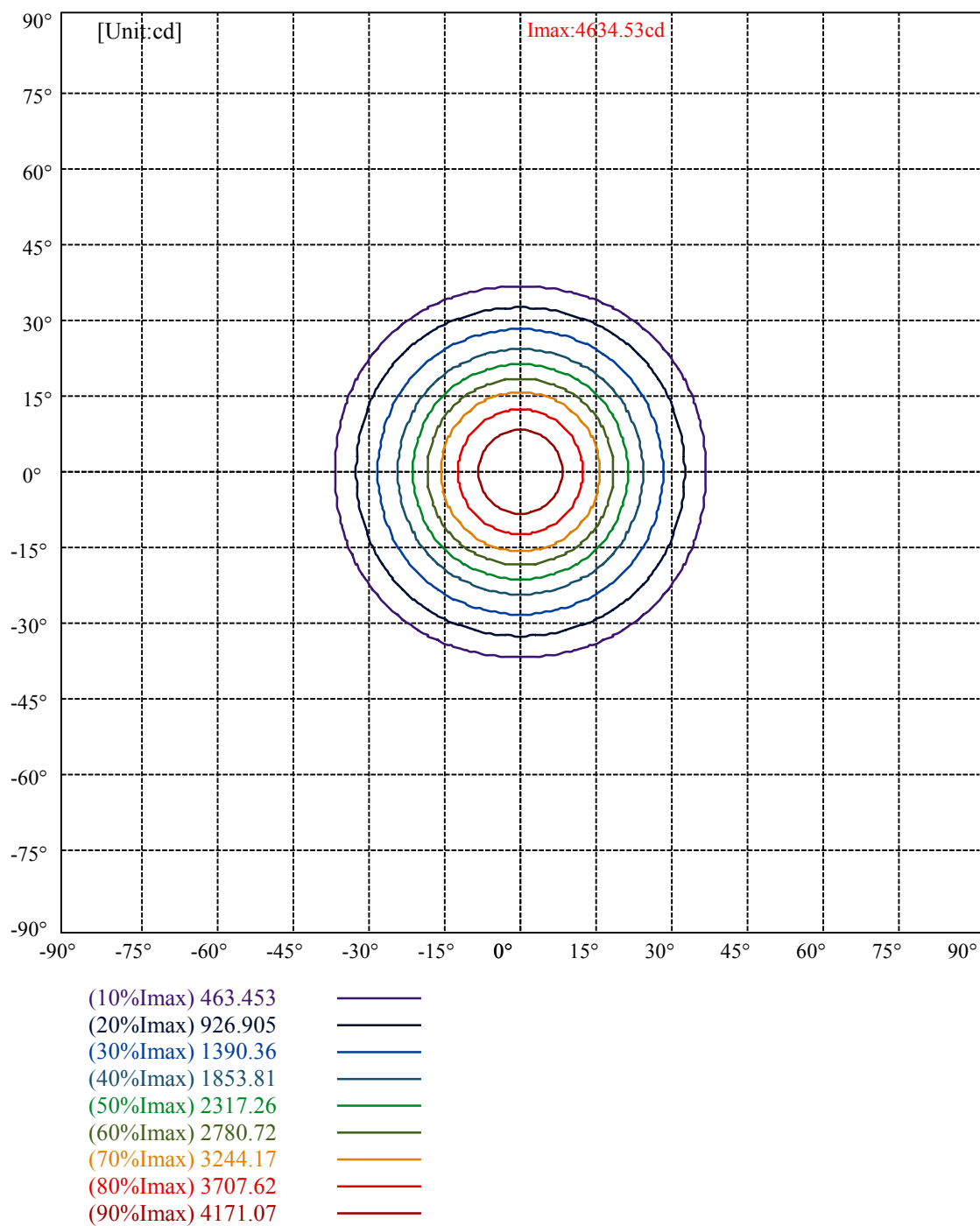
Field angle(10%Imax):C0/180Left:36.3 Right:36.3

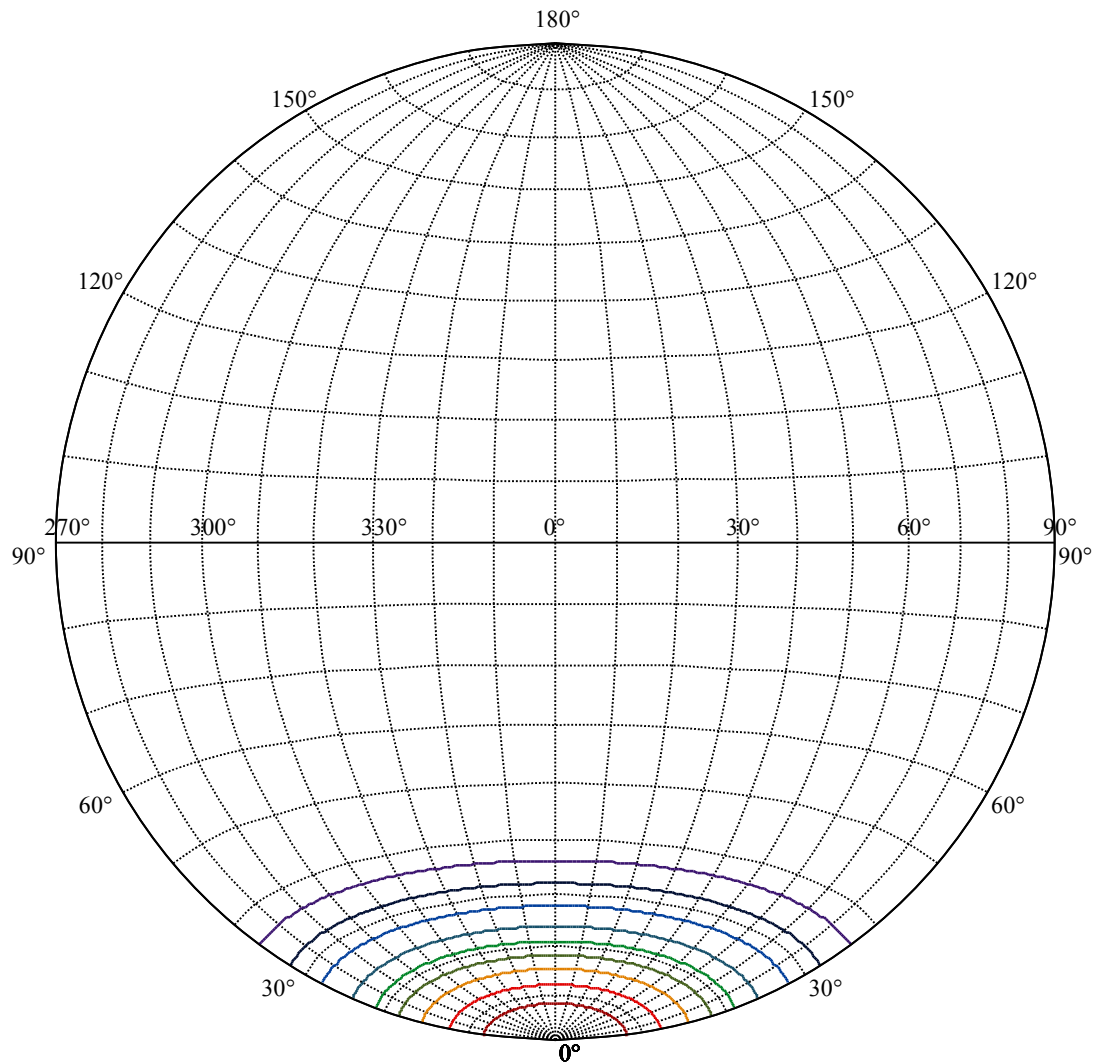
:C90/270Left:36.3 Right:36.3

Beam Angle(50%Imax):C0/180Left:21.0 Right:21.0

:C90/270Left:21.0 Right:21.0







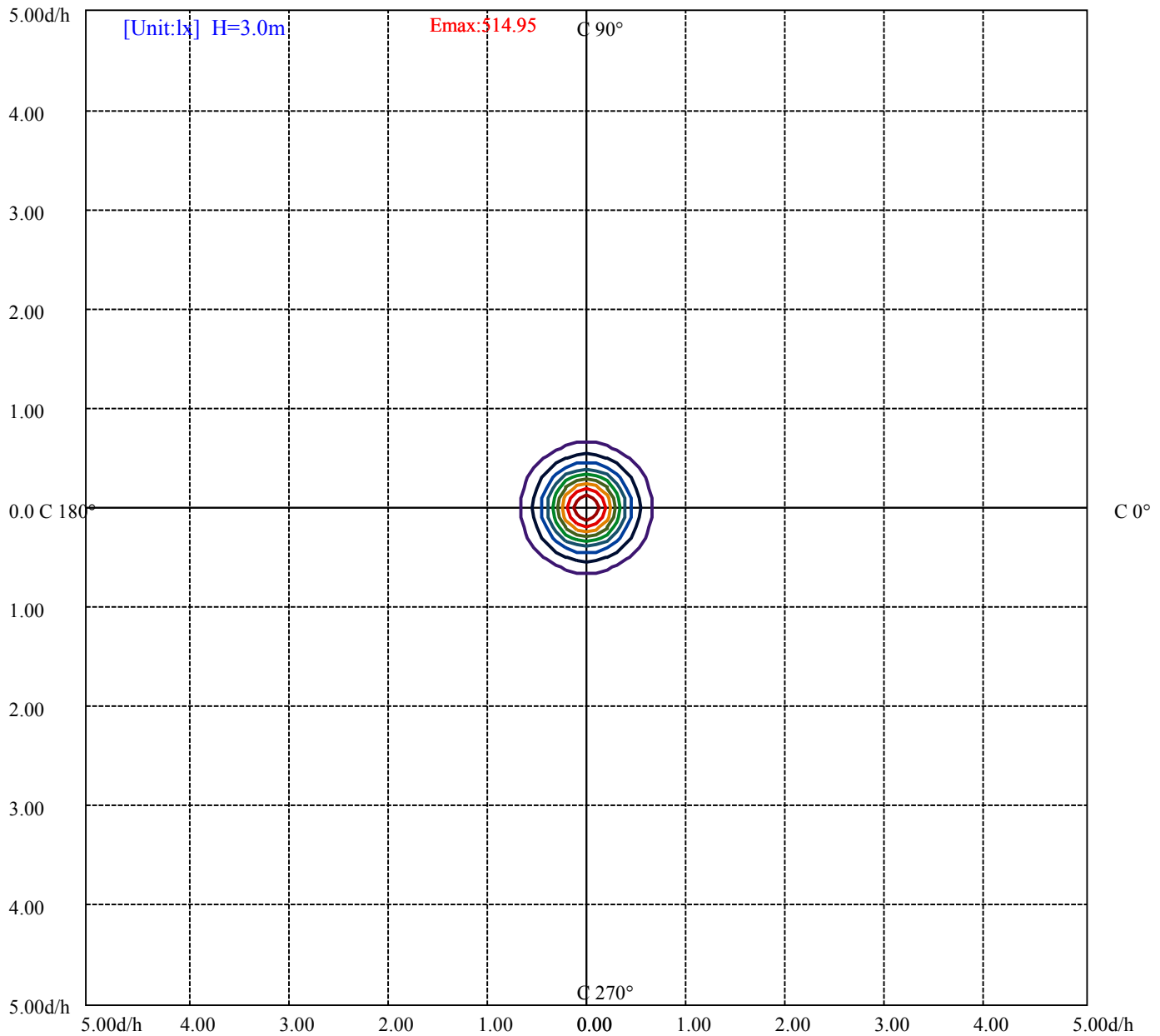
House

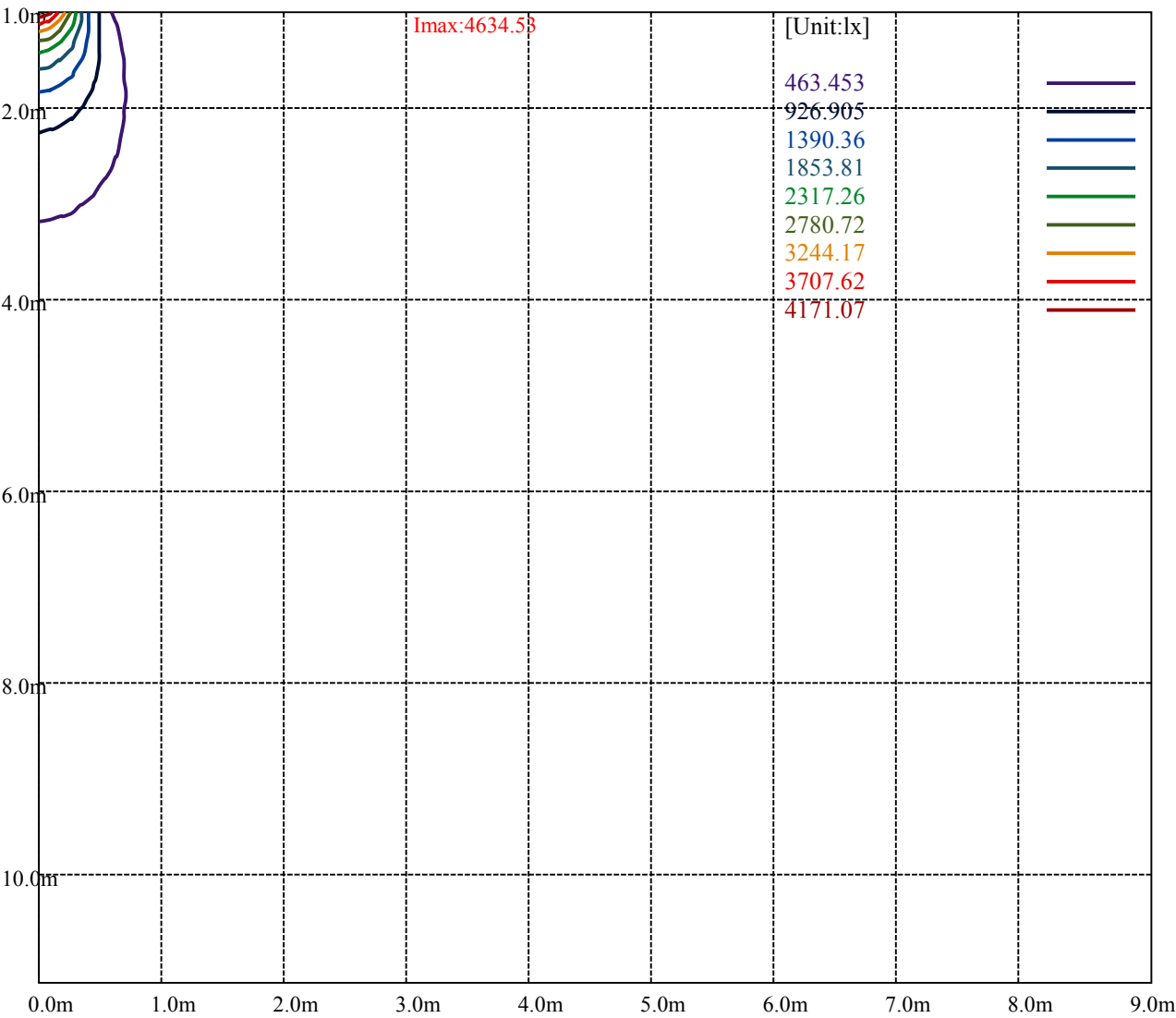
[Unit:cd]

Road

Imax:4634.53

(10%Imax)	463.453	—
(20%Imax)	926.905	—
(30%Imax)	1390.36	—
(40%Imax)	1853.81	—
(50%Imax)	2317.26	—
(60%Imax)	2780.72	—
(70%Imax)	3244.17	—
(80%Imax)	3707.62	—
(90%Imax)	4171.07	—





Luminance Table

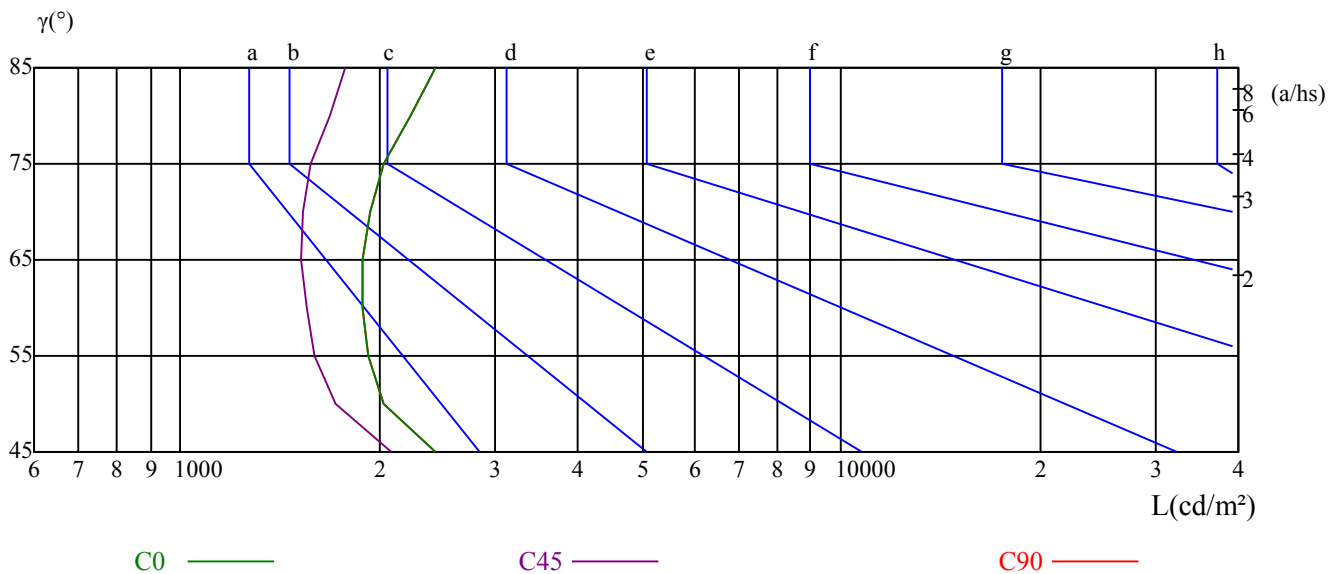
γ	45	50	55	60	65	70	75	80	85
C0	2434	2026	1919	1891	1891	1944	2035	2229	2426
C45	2091	1715	1600	1550	1523	1535	1573	1681	1777
C90	2434	2026	1919	1891	1891	1944	2035	2229	2426

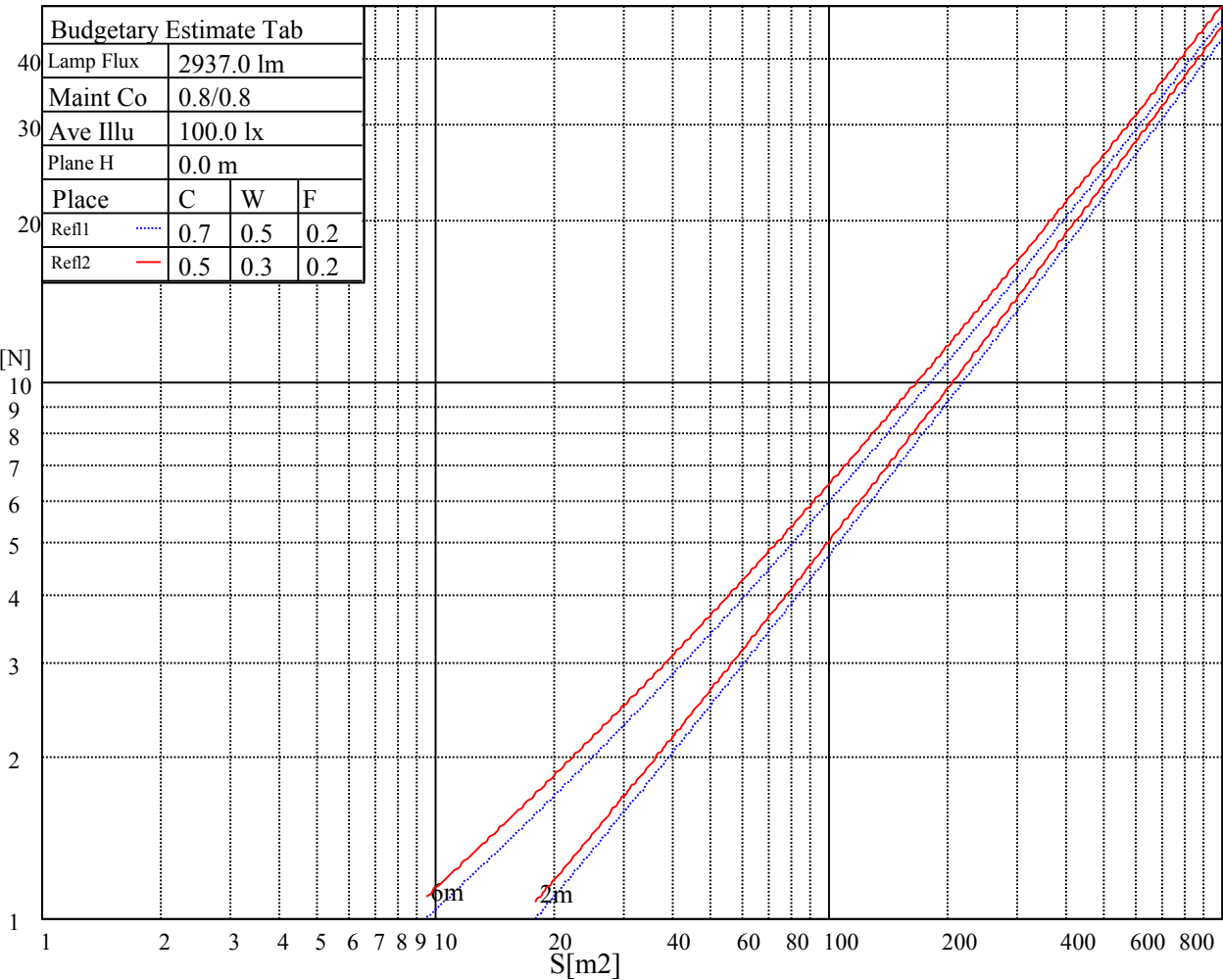
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4543	4543	4543	7002	7002	7002	20558	20558	20558

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	1.05	1.05	1.05	1.02	1.02	1.02	0.98	0.98	0.98	0.93	0.93	0.93	0.90	0.90	0.90	0.88
1	0.98	0.96	0.94	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83
2	0.92	0.88	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.81	0.79	0.78
3	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
4	0.81	0.77	0.74	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.72	0.75	0.73	0.71	0.69
5	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
6	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.63	0.62
7	0.69	0.65	0.61	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.59
8	0.66	0.61	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.56
9	0.63	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54
10	0.60	0.56	0.53	0.60	0.55	0.53	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.55	0.52	0.51

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4629.10	4462.15	3988.55	3359.13	2477.05	1674.56	1259.40	601.59	55.48
45.0	4636.89	4435.43	3959.05	3289.01	2418.62	1622.80	1178.14	542.05	50.70
90.0	4638.56	4461.59	3955.72	3299.03	2430.86	1634.49	1095.84	554.07	53.65
135.0	4633.55	4548.41	4177.77	3536.66	2758.09	1849.30	1340.65	771.33	297.18
180.0	4629.10	4470.49	4036.41	3351.90	2479.84	1706.83	1108.02	574.94	66.34
225.0	4636.89	4505.55	4062.01	3361.91	2539.94	1716.85	1095.17	638.99	114.09
270.0	4638.56	4486.63	4062.01	3373.04	2534.93	1731.32	1246.60	625.52	162.73
315.0	4633.55	4379.78	3858.88	3099.24	2238.31	1554.35	1075.13	427.24	35.56
360.0	4629.10	4462.15	3988.55	3359.13	2477.05	1674.56	1259.40	601.59	55.48
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	17.81	14.02	12.86	12.08	11.58	11.19	10.91	10.74	10.63
45.0	15.86	13.97	12.86	12.30	11.74	11.41	11.07	10.96	10.85
90.0	17.03	14.02	12.91	12.24	11.69	11.35	11.02	10.91	10.80
135.0	20.37	14.64	13.36	12.52	11.91	11.46	11.19	11.97	11.24
180.0	16.31	13.86	12.80	12.13	11.52	11.24	10.96	11.41	11.07
225.0	17.92	14.08	12.91	12.35	11.69	11.30	11.07	11.07	11.02
270.0	17.42	14.19	13.08	12.30	11.74	11.30	11.02	10.91	10.85
315.0	15.81	13.97	12.86	12.19	11.58	11.24	10.96	10.74	10.74
360.0	17.81	14.02	12.86	12.08	11.58	11.19	10.91	10.74	10.63
C/ γ (°)	90.0								
0.0	10.52								
45.0	10.74								
90.0	10.69								
135.0	10.57								
180.0	10.52								
225.0	10.80								
270.0	10.69								
315.0	10.69								
360.0	10.52								