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Nata

LumCAT: 3-1538-A	
Luminaire: 99.02.73.181+92.76.323.00	
Report No: NT2017081111	Voltage(V): 36.0000
Test No:	Current(A): 0.5000
LampCAT: LUMILEDS 1205	Power (W): 18.0000
Lamp flux(lm): 2435.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2169.16
Efficiency(%): 89.08%
Lumens(lm)/Power(W): 120.51
Central intensity(cd): 2335.080
Maximum intensity(cd): 2335.080
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=62.9
[C90/270]Total=62.9
Field angle(10%Imax): [C0/180]Total=83.0
[C90/270]Total=83.0
Maximum s/h(1/2): C0_180=0.97 C90_270=0.97
Maximum s/h(1/4): C0_180=0.93 C90_270=0.93
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.57%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.236%

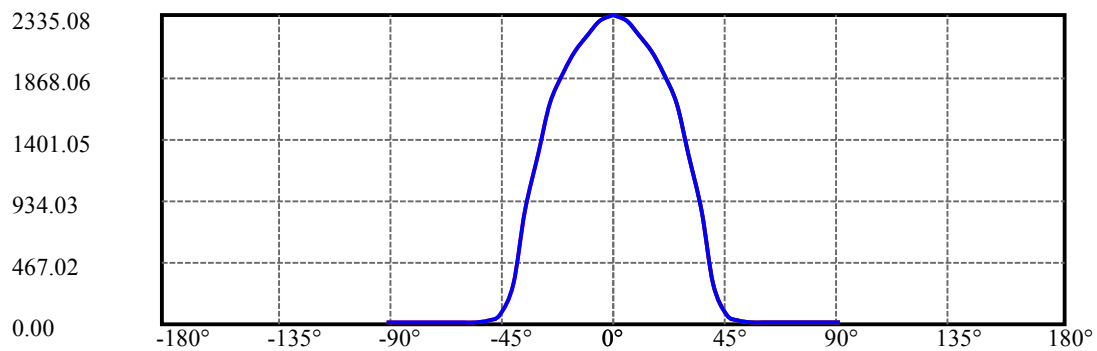
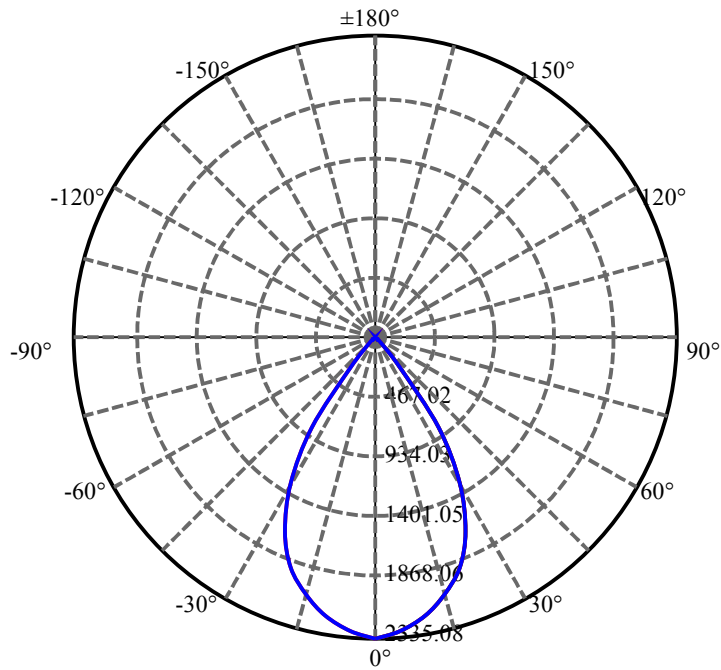
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2335.080	13.964	13.964	.573%	.644%
5.0	2290.966	109.447	123.411	4.495%	5.689%
10.0	2196.200	209.041	332.452	8.585%	15.326%
15.0	2061.174	292.415	624.868	12.009%	28.807%
20.0	1896.968	355.632	980.5	14.605%	45.202%
25.0	1660.914	384.755	1365.256	15.801%	62.939%
30.0	1296.998	355.467	1720.722	14.598%	79.327%
35.0	850.463	267.384	1988.107	10.981%	91.653%
40.0	303.856	107.059	2095.166	4.397%	96.589%
45.0	69.151	26.802	2121.968	1.101%	97.824%
50.0	22.518	9.455	2131.424	.388%	98.260%
55.0	13.392	6.013	2137.437	.247%	98.537%
60.0	10.846	5.149	2142.586	.211%	98.775%
65.0	10.013	4.974	2147.56	.204%	99.004%
70.0	9.525	4.906	2152.466	.201%	99.230%
75.0	9.222	4.883	2157.349	.201%	99.455%
80.0	8.885	4.796	2162.145	.197%	99.676%
85.0	8.609	4.701	2166.846	.193%	99.893%
90.0	8.458	2.318	2169.164	.095%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1720.72	70.67%	79.33%
0-40	2095.17	86.04%	96.59%
0-60	2142.59	87.99%	98.77%
0-90	2166.85	88.99%	99.89%
0-120	2166.85	88.99%	99.89%
0-180	2169.16	89.08%	100.00%
60-90	29.41	1.21%	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%
0-30.27	1735.33	71.27%	80.00%

ZONAL LUMEN SUMMARY

0-10	332.45
10-20	648.05
20-30	740.22
30-40	374.44
40-50	36.26
50-60	11.16
60-70	9.88
70-80	9.68
80-90	4.70
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:

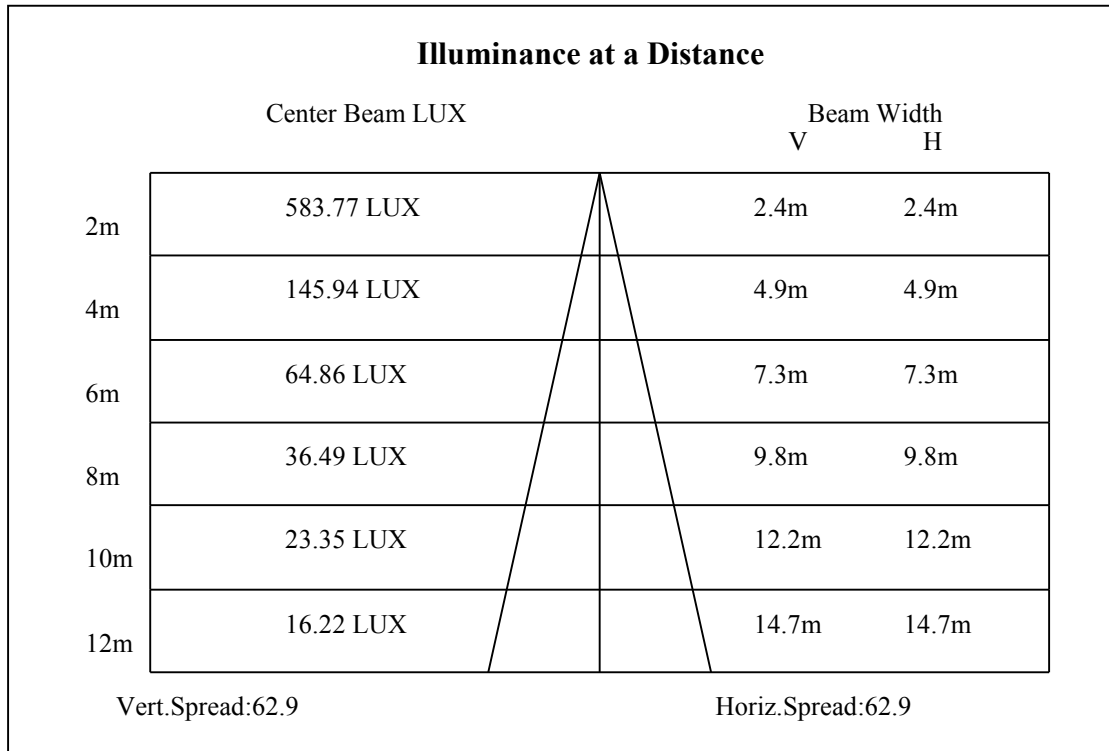
C90/C270:

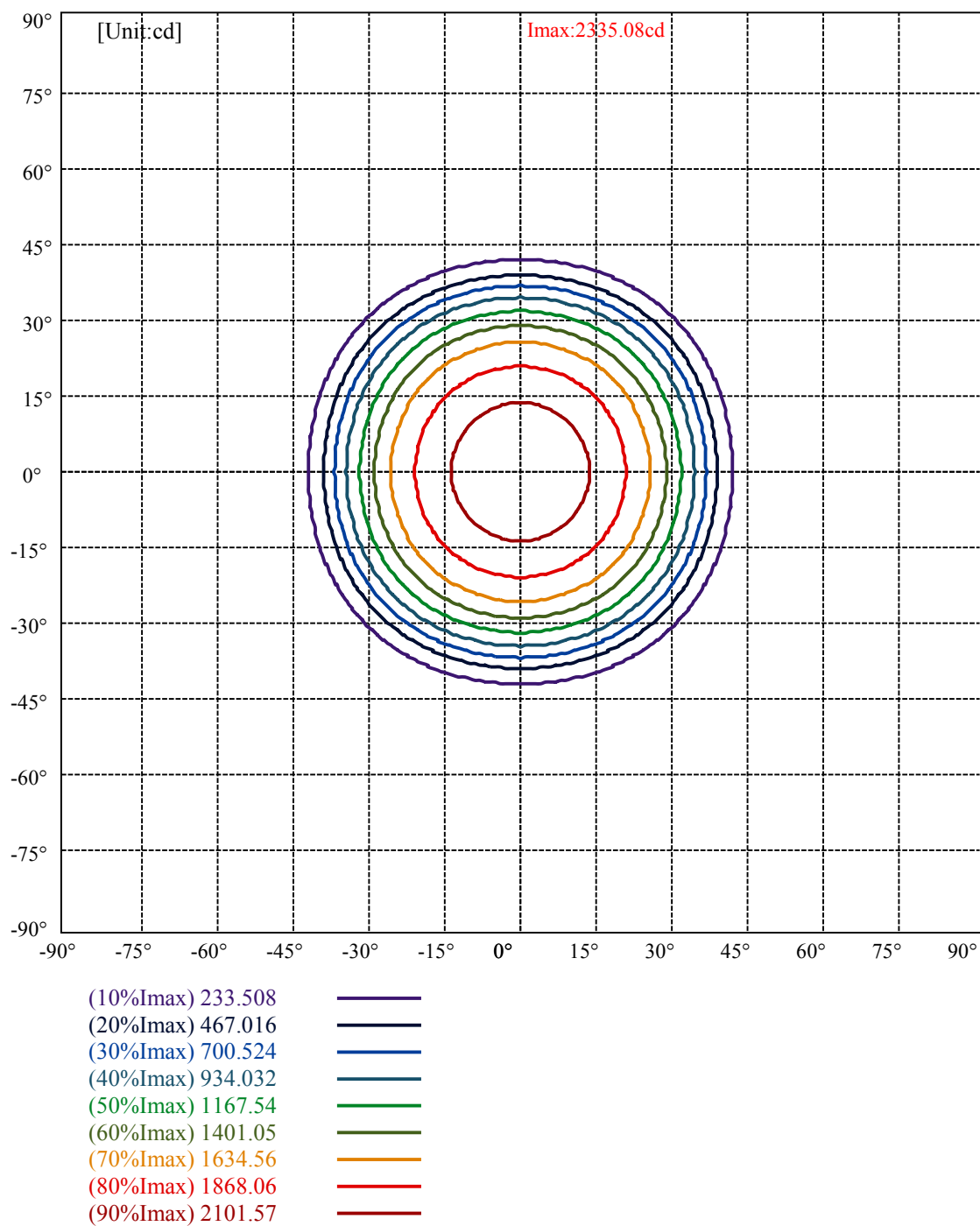
Field angle(10%Imax):C0/180Left:41.5 Right:41.5

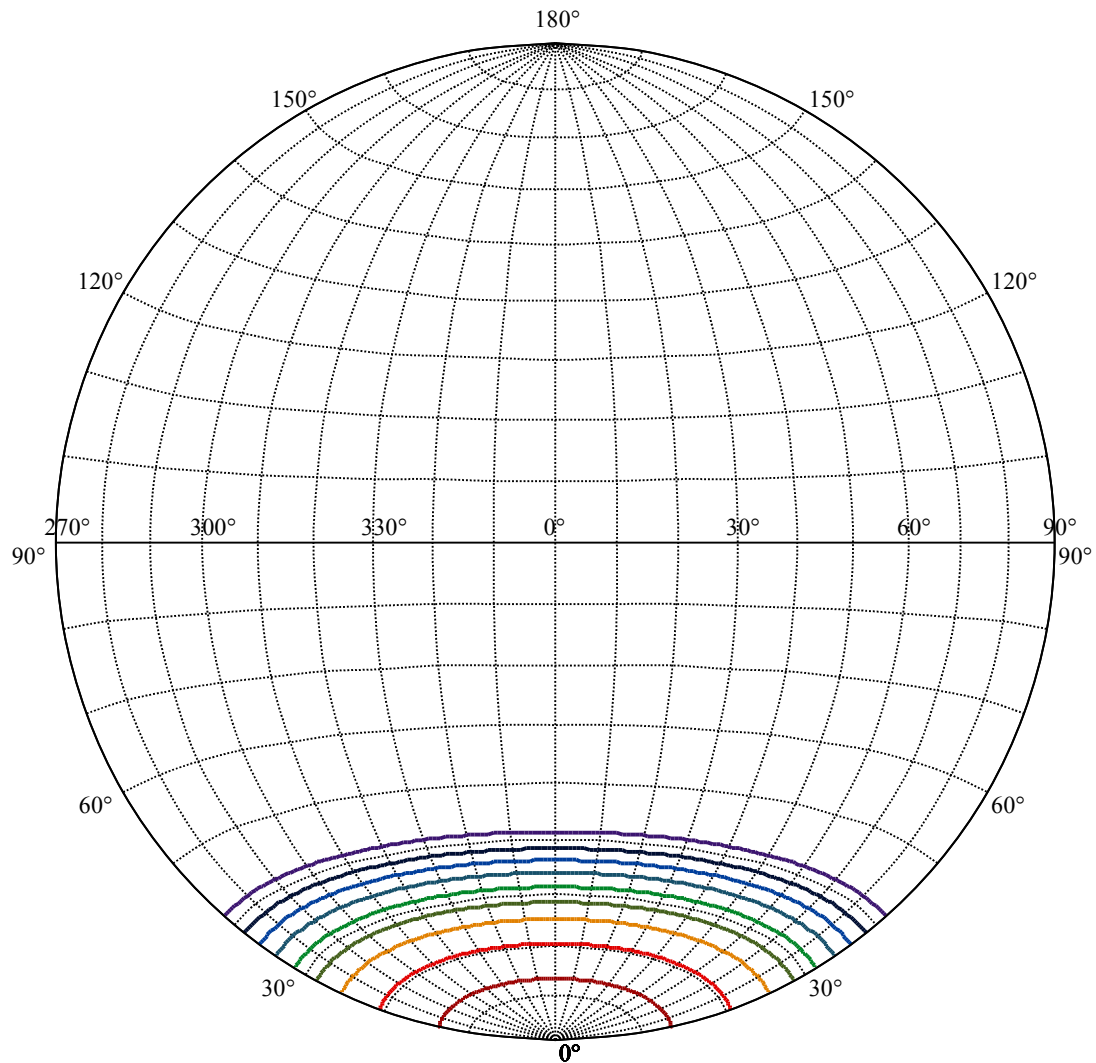
:C90/270Left:41.5 Right:41.5

Beam Angle(50%Imax):C0/180Left:31.4 Right:31.4

:C90/270Left:31.4 Right:31.4







House

[Unit:cd]

Road

Imax:2335.08

(10%Imax) 233.508

(20%Imax) 467.016

(30%Imax) 700.524

(40%Imax) 934.032

(50%Imax) 1167.54

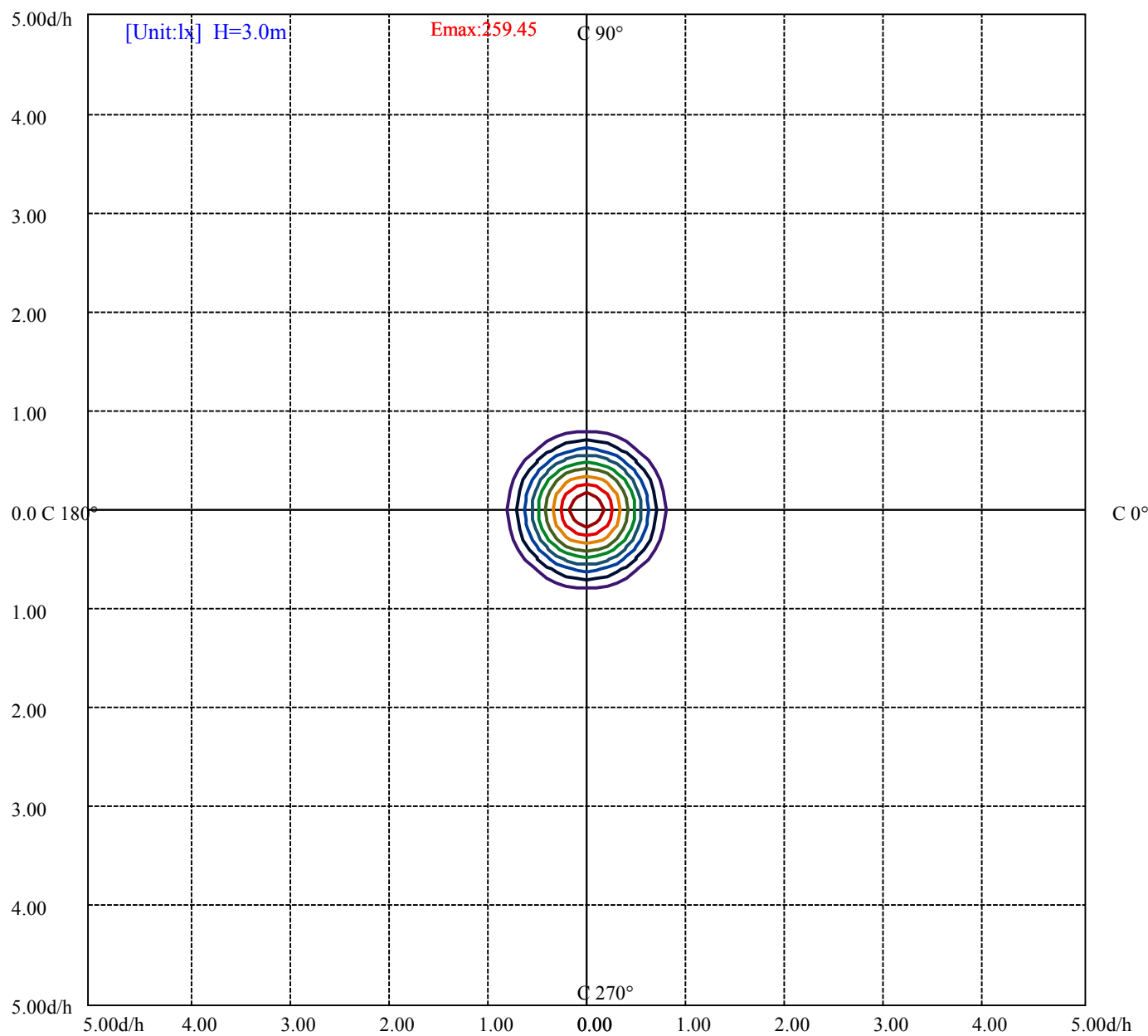
(60%Imax) 1401.05

(70%Imax) 1634.56

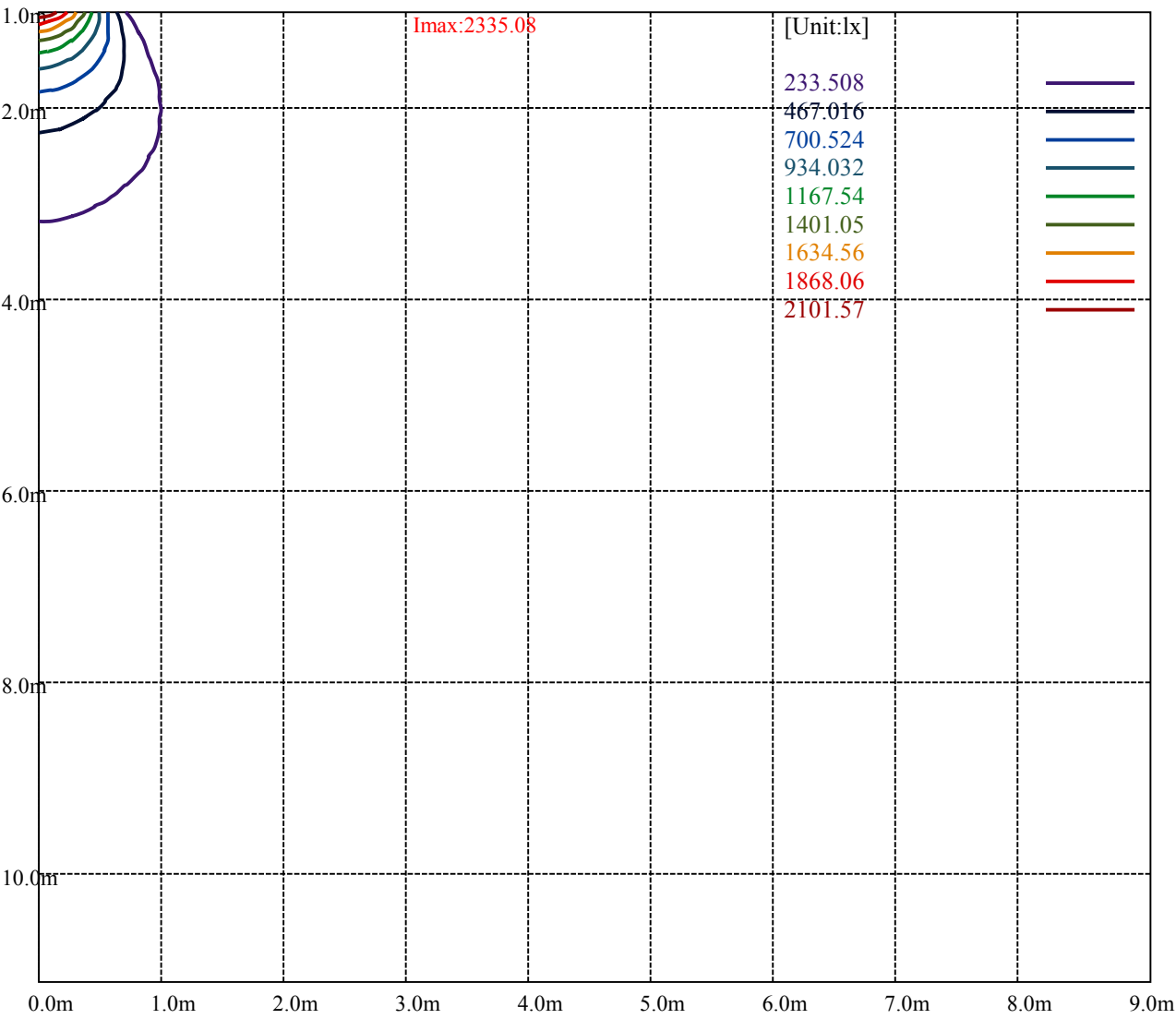
(80%Imax) 1868.06

(90%Imax) 2101.57





(10%E _{max}) 25.94533	—
(20%E _{max}) 51.89067	—
(30%E _{max}) 77.83589	—
(40%E _{max}) 103.7812	—
(50%E _{max}) 129.7267	—
(60%E _{max}) 155.6722	—
(70%E _{max}) 181.6167	—
(80%E _{max}) 207.5622	—
(90%E _{max}) 233.5078	—



Luminance Table

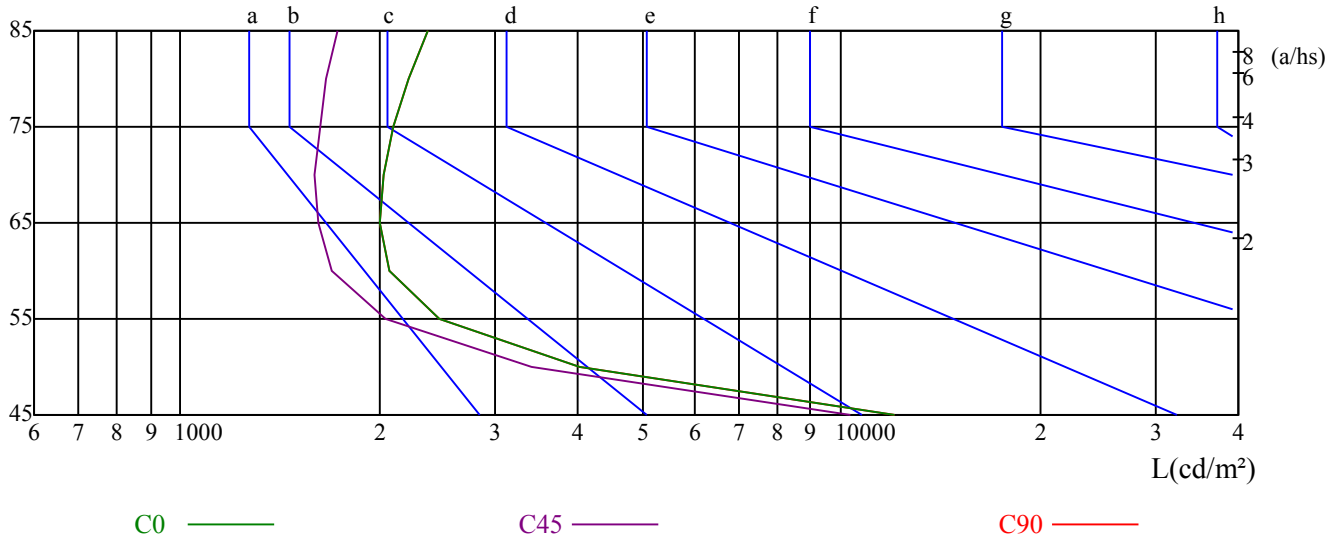
γ	45	50	55	60	65	70	75	80	85
C0	12044	4009	2458	2070	2007	2026	2106	2209	2369
C45	10344	3392	2048	1696	1616	1599	1627	1665	1735
C90	12044	4009	2458	2070	2007	2026	2106	2209	2369

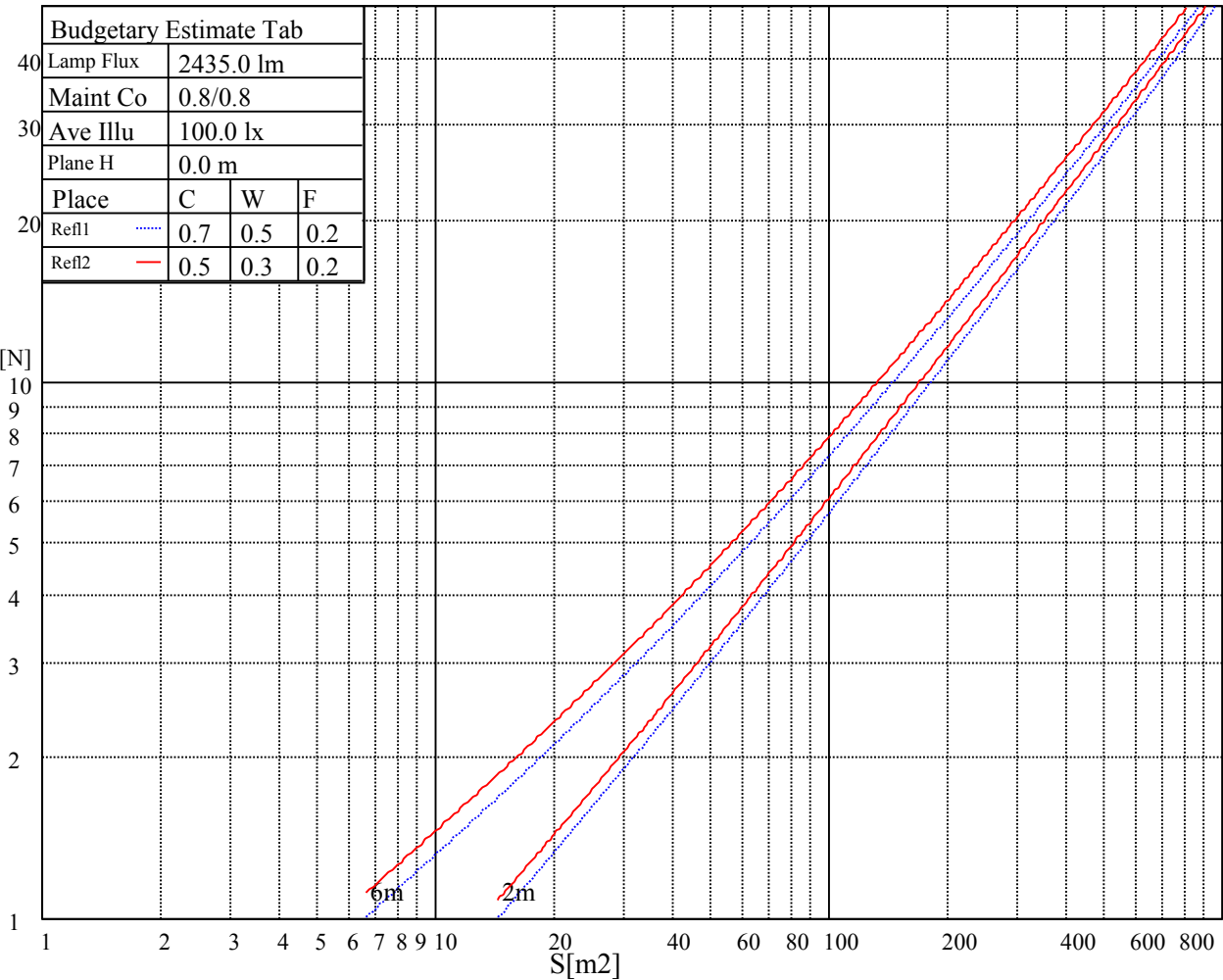
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4835	4835	4835	7272	7272	7272	20160	20160	20160

Glare Table

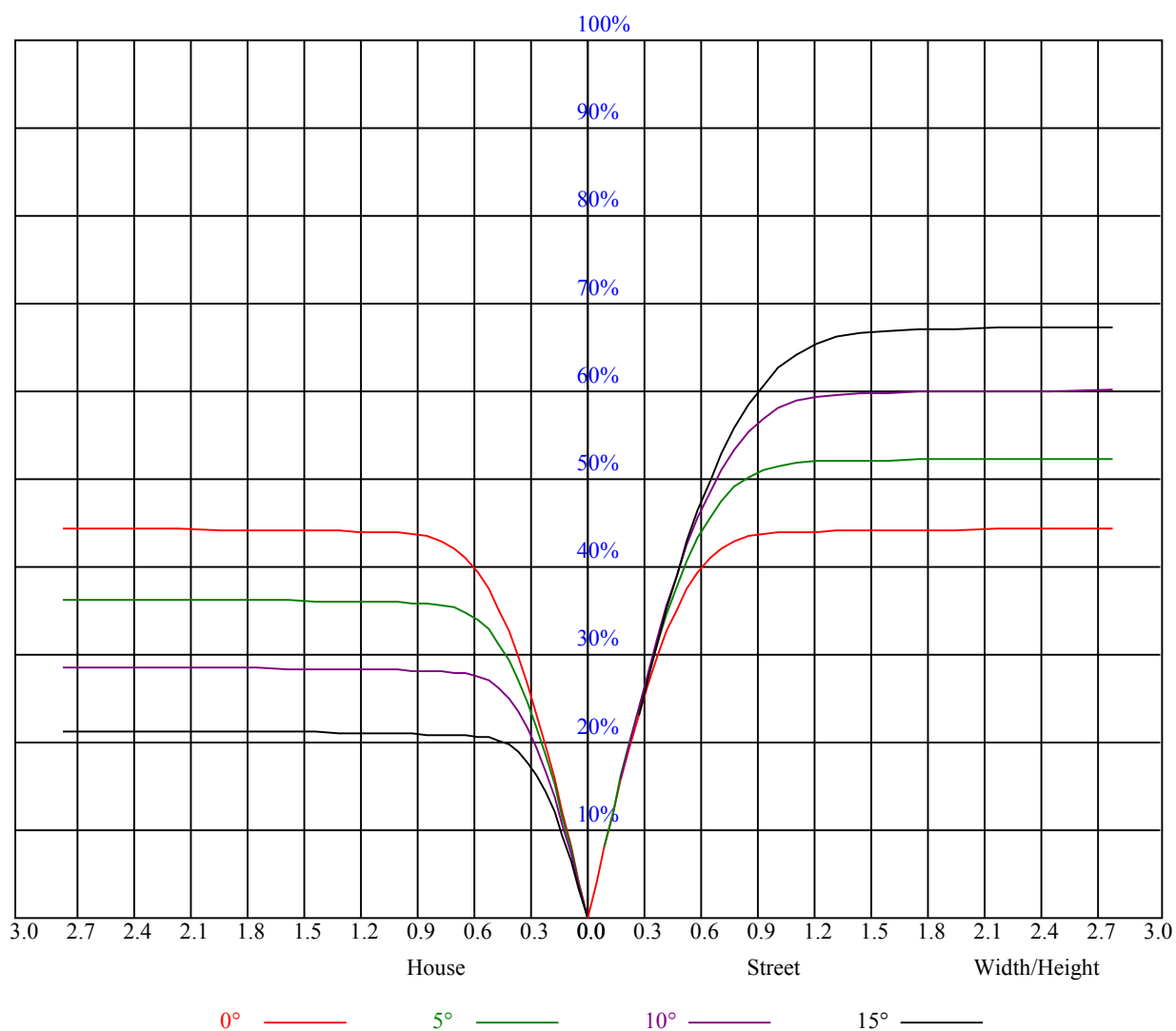
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.90
1	0.99	0.96	0.94	0.97	0.95	0.93	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.86	0.85	0.83
2	0.92	0.89	0.86	0.91	0.88	0.85	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.78
3	0.87	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	0.73
4	0.81	0.77	0.73	0.80	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.69
5	0.77	0.72	0.68	0.76	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.65
6	0.73	0.68	0.64	0.72	0.67	0.64	0.71	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.62	0.61
7	0.69	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.58
8	0.65	0.60	0.57	0.65	0.60	0.57	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.55
9	0.62	0.57	0.54	0.62	0.57	0.54	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52
10	0.59	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.51	0.57	0.53	0.50	0.49



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	2335.49	2283.74	2186.29	2059.11	1904.95	1683.62	1327.96	874.85	296.75		
45.0	2337.14	2278.23	2168.12	2026.08	1871.92	1632.42	1253.63	742.71	295.10		
90.0	2331.09	2271.08	2166.47	2015.61	1861.46	1566.35	1083.57	667.78	158.45		
135.0	2336.59	2293.65	2212.72	2091.59	1920.92	1672.06	1304.84	844.57	281.89		
180.0	2335.49	2292.55	2197.85	2061.31	1890.64	1632.97	1299.88	832.78	248.41		
225.0	2337.14	2306.86	2214.37	2089.39	1923.67	1702.89	1373.66	931.94	359.24		
270.0	2331.09	2310.17	2230.89	2096.55	1928.63	1737.03	1414.95	1054.88	476.79		
315.0	2336.59	2291.45	2192.90	2049.75	1873.57	1659.95	1317.50	854.20	314.21		
360.0	2335.49	2283.74	2186.29	2059.11	1904.95	1683.62	1327.96	874.85	296.75		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	69.76	20.70	12.77	10.63	9.91	9.41	9.08	8.75	8.53		
45.0	58.75	19.10	12.50	10.63	9.86	9.47	9.14	8.81	8.59		
90.0	38.81	16.24	11.62	10.46	9.86	9.36	8.97	8.70	8.53		
135.0	63.15	19.77	12.77	10.63	9.91	9.41	9.03	8.75	8.53		
180.0	69.32	21.53	13.05	10.63	9.86	9.36	9.03	8.75	8.59		
225.0	81.54	24.67	14.37	10.96	10.19	9.63	9.30	8.92	8.64		
270.0	99.76	36.28	16.57	12.00	10.52	9.97	10.08	9.52	8.86		
315.0	72.12	21.86	13.49	10.85	10.02	9.58	9.14	8.86	8.59		
360.0	69.76	20.70	12.77	10.63	9.91	9.41	9.08	8.75	8.53		
C/ γ (°)	90.0										
0.0	8.42										
45.0	8.48										
90.0	8.48										
135.0	8.42										
180.0	8.37										
225.0	8.53										
270.0	8.48										
315.0	8.48										
360.0	8.42										